Index of Living and Fossil Echinoids 1924-1970

PORTER M. KIER
and
MARY HURD LAWSON

SMITHSONIAN CONTRIBUTIONS TO PALEOBIOLOGY • NUMBER 34

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ABSTRACT

Kier, Porter M., and Mary Hurd Lawson. Index of Living and Fossil Echinoids 1924–1970. *Smithsonian Contributions to Paleobiology,* number 34, 182 pages, 1978.—All new taxa of fossil and living echinoids described from 1924 to 1970 are listed with their age, geographic and stratigraphic occurrence, and bibliographic citation.

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Contents

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Introduction

Fifty years have passed since Lambert and Thiéry compiled their list of living and fossil echinoids. Since that time many new species and genera have been described. The result has been an increasing need for an update to this compilation. To satisfy this need we have prepared this supplement to Lambert and Thiéry's work.

The list was prepared from the citations in the *Zoological Record* from 1924 to 1970. Citations before 1924 are included if they were absent in Lambert and Thiéry. In every case we saw the original reference and checked for species that might have been missed. Where possible we have brought up to date the stratigraphic information; in particular we have tried to find the latest age determinations for the stratigraphic occurrences of the fossil species. No attempt has been made to revise the taxonomic assignment of the species because we felt it would have been necessary to see the type specimens. Time did not permit this. Our index has strictly followed the classification of the *Treatise on Invertebrate Paleontology* even where we disagree with it. Within five years we intend to publish a supplementary revision that will include all the new taxa for the years 1971–1975. For this reason we ask all users of this work to inform us of any errors, deletions, or additions.

Porter M. Kier and Mary Hurd Lawson, Department of Paleobiology, National Museum of Natural History, Smithsonian Institution, Washington, D. C. 20560.

The present list is arranged by taxonomic hierarchy with the geological time sequence indicated by headings at the generic and specific levels. Within a generic or specific entry, brackets enclose locality information and parentheses enclose further levels of geological time or stratigraphic information.

ACKNOWLEDGMENTS.—We wish to thank the staffs of the Smithsonian Institution and the United States Geological Survey libraries—in particular, Mrs. Carolyn Hahn and Mr. Jack Marquardt for their invaluable assistance in locating many hard-to-obtain books. We also thank Ms. Donna Copeland for typing this paper.

Class ECHINOIDEA Leske

Subclass PERISCHOECHINOIDEA M'Coy

Superorder MEGALOPODACEA Durham

Order BOTHRIOCIDAROIDA Zittel

Family BOTHRIOCIDARIDAE Klem

Genus *Bothriocidaris* Eichwald

UPPER ORDOVICIAN

B. eichwaldi Männil, 1962:152–156, 187–189, figs. 3b, 6, 7, 11, 12, 14–17, pl. 1: figs. 6–9, pl. 3: figs. 1–4, pls. 4, 5. [Baltic States, U.S.S.R.] (Pirgu Stage.)

B. parvus Männil, 1962:156–160, 187, 189, figs. 3v, 8, 9, pl. 2: figs. 3–4, pl. 3: fig. 5. [Baltic States, U.S.S.R.] (Vormsi Stage.)

Genus *Neobothriocidaris* Paul

ORDOVICIAN

Neobothriocidaris Paul, 1967:535. Type-species: *N. peculiaris* Paul, 1967:528–531, 535, fig. 3, pl. 84: figs. 1–4, pl. 85: figs. 9–11. [Ayrshire, Scotland.] (Middle and upper Ashgill.)
N. minor Paul, 1967:531–533, 535, figs. 2, 4, pl. 85: figs. 5–8. [Ayrshire, Scotland.]

Order ECHINOCYSTITOIDA Jackson

Family ECHINOCYSTITIDAE Gregory

Genus *Pronechinus* Kier

UPPER PERMIAN

Pronechinus Kier, 1965:461–462. Type-species: *P. anatoliensis* Kier, 1965:462–463, figs. 23–24, pl. 58: fig. 4, pl. 59: fig. 3. [Turkey.]

Genus *Eupholidocidaris* Kier

In the *Treatise,* Kier (Durham et al., 1966:U302) considers *Eupholidocidaris* Kier a subjective synonym of *Proterocidaris* de Koninck.

MISSISSIPPIAN

Eupholidocidaris Kier, 1956:15. Type-species: *E. brightoni* Kier, 1956:16–17, figs. 1–2, pl. 1. [Ireland.]

PENNSYLVANIAN

E. belli Kier, 1957a:326–328, fig. 1. [Texas, U.S.A.]

Genus *Fournierechinus* Jackson

MISSISSIPPIAN

Fournierechinus Jackson, 1929:67. Type-species: *F. deneensis* Jackson, 1929:67–72, pl. 9, pl. 10: figs. 1–2. [Belgium.] (Lower Viséan.)

Genus *Jacksonechinus* Lambert

In the *Treatise,* Kier (Durham et al., 1955: U302) provisionally considers this genus a subjective synonym of *Proterocidaris* de Koninck.

PENNSYLVANIAN

Jacksonechinus Lambert, 1935e:39–40. Type-species: *J. andrewi* Lambert, 1935e:40, pl. 1: figs. 1–3. [Egypt.]

Genus *Pholidocidaris* Meek and Worthen

MISSISSIPPIAN

P. tornacensis Jackson, 1929:64–66, pl. 5: fig. 7, pl. 10: figs. 3–6. [Belgium.] (Tournaisian.)

Genus *Rhenechinus* Dehm

LOWER DEVONIAN

Rhenechinus Dehm, 1953:88–93. Type-species: *R. hopstatteri* Dehm, 1953:88–94, figs. 1–2, pl. 5. [Germany.]

Family LEPIDESTHIDAE Jackson

Genus *Lepidesthes* Meek and Worthen

PENNSYLVANIAN

L. grandis Kier, 1958a:20–23, figs. 21–22, pl. 8A. [Texas, U.S.A.]
L. alta Kier, 1958a:17–20, figs. 15–20, pl. 7. [Tennessee, U.S.A.] (Meramecian.)
L. formosa Termier and Termier, 1950:99, 102, pl. 231: fig. 21. [Morocco, North Africa.] (Upper Viséan.)
L. howsei Jackson, 1926:529, pl. 30. [England.]
L.? martini Spreng and Howe, 1963:937–938, figs. 6E–I. [Missouri, U.S.A.]

MISSISSIPPIAN to UPPER DEVONIAN

L. warrenensis Cooper, 1931b:532–538, figs. 1–2. [U.S.A.]

Genus *Meekechinus* Jackson

MISSISSIPPIAN

M.? herbornensis Bindemann, 1938: 203–220, figs. 1–2, pl. 1: figs. 1–12, pl. 2: figs. 1–5, pl. 3: figs. 1–4, pl. 4: figs. 1–2. [Germany.]

Family LEPIDOCENTRIDAE Lovén

Genus *Lepidocentrus* Müller

MISSISSIPPIAN

L. mammillatus Jackson, 1929:21–22, pl. 1: figs. 12a–d. [Belgium.] (Viséan.)

UPPER DEVONIAN

L.? thomasi Belanski, 1928:181–183, pl. 13: figs. 1–16. [Iowa, U.S.A.]

LOWER DEVONIAN

L. lenneanus Wolburg, 1933:47–49, fig. 3, pl. 3. [Germany.]

Genus *Albertechinus* Stearn

UPPER DEVONIAN

Albertechinus Stearn, 1956:741–744. Type-species: *A. montanus* Stearn, 1956:744–746, fig. 1, pl. 81: figs. 1–3. [Alberta, Canada.] (Fairholme Fm.)

Genus *Aulechinus* Bather and Spencer

UPPER ORDOVICIAN

Aulechinus Bather and Spencer, 1934:558. Type-species: *A. grayae* Bather and Spencer, 1934:558. [Scotland.]

Genus *Cavanechinus* Brown

MIDDLE DEVONIAN

Cavanechinus Brown, 1967:158–159. Type-species: *C. warreni* Brown, 1967: 160, fig. 1, pl. 4: figs. 1–2. [South of Yass, New South Wales, Australia.]

Genus *Deneechinus* Jackson

MISSISSIPPIAN

Deneechinus Jackson, 1929:22. Type-species: *D. tenuispinus* Jackson, 1929:22–24, pl. 1: fig. 11. [Belgium.] (Lower Viséan.)

Genus *Ectinechinus* MacBride and Spencer

UPPER ORDOVICIAN

Ectinechinus MacBride and Spencer, 1938:95. Type-species: *E. lamonti* MacBride and Spencer, 1938: 95, figs. 2a–b, 5e, 7d, 10b, 11b, pl. 12: figs. 4–6, pl. 13: figs. 3–4, pl. 14: figs. 4–5, pl. 15: fig. 5. [Scotland.] (Ashgillian.)

Genus *Eothuria* MacBride and Spencer

UPPER ORDOVICIAN

Eothuria MacBride and Spencer, 1938:95. Type-species: *E. beggi* MacBride and Spencer, 1938:95, figs. 5f, 7e, 8c, 13–15, pl. 15: figs. 6–9, pl. 16: figs. 1–5, pl. 17: figs. 1–5. [Scotland.] (Ashgillian.)

MacBride and Spencer (1938:95) created a new order Megalopoda and family Eothuriidae for *Eothuria*. Durham (1966:377) erected a superorder Megalopodacea.

Genus *Hyattechinus* Jackson

MISSISSIPPIAN

H. dixoni Hawkins, 1935b:243–246, fig. 2, pl. 15: figs. 1–3. [Wales, Great Britain.]

H. elegans Jackson, 1929:24–30, fig. 5, pl. 4: figs. 2–3, 4a–g, pl. 5: figs. 5a–r. [Belgium.] (Tournaisian.)

H. laudoni Kier, 1965:463, 464, figs. 3F, 25, pl. 58: fig. 1, pl. 59: figs. 1–2. [Montana, U.S.A.]

H. toreumaticus Hawkins, 1935b:246–248, fig. 3, pl. 14: fig. 2. [Wales, Great Britain.]

Genus *Lepidechinoides* Olsson

DEVONIAN

L. hunti Cooper, 1931a:132–137, figs. 1B, 1C, 1F, 2A, pl. 18: figs. 1–7. [U.S.A.] (Skaneateles Fm.)

L. whitnalli Cooper, 1931a:137–139, figs. 1D–E, pl. 19: figs. 4–8. [U.S.A.]

Genus *Lepidechinus* Hall

MISSISSIPPIAN

L. belgicus Jackson, 1929:46–47, pl. 5: figs. 1–2. [Belgium.] (Lower Viséan.)
L. cooperi Kier, 1958a:15–17, figs. 11–12, pl. 6. [Iowa, U.S.A.] (Kinderhookian.)

Genus *Perischodomus* M'Coy

MISSISSIPPIAN

P. fraiponti Jackson, 1929:48–50, pl. 5: figs. 3–4. [Belgium.] (Lower Viséan.)

Genus *Porechinus* Dehm

LOWER DEVONIAN

Porechinus Dehm, 1961:4–5. Type-species: *P. porosus* Dehm, 1961:4–5, fig. 2, pl. 1: figs. 1–4. [West Germany.]

Family Uncertain

Genus *Devonocidaris* Thomas

UPPER DEVONIAN

D. dumoni Maillieux, 1935:11–14, pl. 2: figs. 2–6. [Belgium.] (Frasnian.)
D. hacquaerti Maillieux, 1935:9–11, pl. 2: figs. 1–1d. [Belgium.] (Frasnian.)
D. jacksoni Thomas, 1924:500–505, pl. 50: fig. 36, pl. 51: figs. 1–26, pl. 52: figs. 1–4, pl. 53: figs. 1–7, pl. 54: figs. 1–6. [Iowa, U.S.A.]
D. primaevus Belanski, 1928:184–186, pl. 13: figs. 29–34. [Iowa, U.S.A.]
D. thomasi Stainbrook, 1937: 899–901, pl. 1: figs. 5–7, 9. [U.S.A.]

Order PALAECHINOIDA Haeckel

Family PALAECHINIDAE M'Coy

Genus *Palaechinus* M'Coy

MISSISSIPPIAN

P. canadensis Kier, 1953:65–69, figs. 1–4. [Canada. Kier referred to genus as *Palaeechinus* Lovén (nom. van.).] (Upper Kinderhookian or lower Osagean.)
P. globulus Jackson, 1929:30–33, pl. 2: figs. 10–14. [Belgium. Jackson referred to genus as *Palaeechinus* Lovén (nom. van.)] (Tournaisian.)
P. merriami Kier, 1965:458–459, fig. 17, pl. 57: fig. 2. [Nevada, U.S.A.]
P. sprengi Kier, 1954:252–254, figs. 1–2. [Canada. Kier referred to genus as *Palaeechinus* Lovén (nom. van.).]
P. tetrastichus Kier, 1958a:12–14, figs. 6–10, pl. 5B. [U.S.A.]
P. visetensis Jackson, 1929:33–36, fig. 7, pl. 2: figs. 1–9. [Belgium. Jackson referred to genus as *Palaeechinus* Lovén (nom. van.).] (Viséan.)

Genus *Lovenechinus* Jackson

MISSISSIPPIAN

L. gordoni Kier, 1965:459–460, figs. 18-20, pl. 58: fig. 2. [Nevada, U.S.A.] (Lower Mississippian.)
L. hunanensis Ozaki, 1939:565–567, pl. 30: figs. 1–7. [Central China.] (Shihtengtse Ls.)
L. jacksoni Demanet, 1931:1–9, figs. 1–7. [Belgium.] (Lower Dinantian.)

Genus *Melonechinus* Meek and Worthen

MISSISSIPPIAN

M. chuseni Chao, 1942:202–204, fig. 1. [China.] (Upper part of Yentse Series.)
M.? heckeri Faas, 1941:74–75, fig. 9, pl. 10: fig. 9. [Leningrad Province, U.S.S.R.]

Genus *Donbassechinus* Faas

In the *Treatise* Kier (Durham et al., 1966:U309) provisionally considers this genus a subjective synonym of *Melonechinus* Meek and Worthen.

MISSISSIPPIAN

Donbassechinus Faas, 1941:73. Type-species: *D. kumpani* Faas, 1941:73–74, figs. 6–8, pl. 10: figs. 6–8. [Don Basin, U.S.S.R.]

Family CRAVENECHINIDAE Hawkins

Genus *Cravenechinus* Hawkins

MISSISSIPPIAN

Cravenechinus Hawkins, 1946:195. Type-species: *C. uniserialis* Hawkins, 1946:195–197, fig. 1. pl. 13. [England.] (Viséan.)

Genus *Gotlandechinus* Regnéll

UPPER SILURIAN

Gotlandechinus Regnéll, 1956:158–160. Type-species: *G. balticus* Regnéll, 1956:160–163, figs. 1–2, pl. 1: fig. 4. [Sweden.] (Lower Ludlow.)

Genus *Xenechinus* Kier

LOWER PERMIAN

Xenechinus Kier, 1958b:889–890. Type-species: *X. parvus* Kier, 1958b:890–892, figs. 1–3, pl. 114: figs. 8–12. [Texas, U.S.A.] (Wolfcampanian.)

Order CIDAROIDA Claus

Family ARCHAEOCIDARIDAE M'Coy

Genus *Archaeocidaris* M'Coy

PERMIAN

A. barroisi Mathieu, 1949:39–42, pl. 1: figs. 2–12, 15. [Tunis, North Africa.]
A. cowleyi Boos, 1929:249–250, pl. 27: figs. 3–3c. [Oklahoma-Kansas, U.S.A.] (Lower Permian.)
A. manhattanensis Mathieu, 1949:41, pl. 1: fig. 1. [Texas, U.S.A.]

PENNSYLVANIAN

A. immanis Kier, 1958a:3–7, figs. 1–2, pl. 1, pl. 2, pl. 3A. [Oklahoma, U.S.A.]
A. meurevillensis Dehée, 1927:290–293, pl. 7. [France.] (Westphalian.)
A. mosquensis A. Ivanov (in litt.), Yakovlev, 1939: 70, pl. 13: figs. 23–26. [U.S.S.R.]
A. subwortheni Faas (in litt.), Yakovlev, 1939:69–70, pl. 13: figs. 10–12. [U.S.S.R.]

MISSISSIPPIAN

A. aliquantula Kier, 1958a:7–8, pl. 3C. [Iowa, U.S.A.] (Kinderhookian.)
A. propinqua Jackson, 1929:17–18, fig. 3, pl. 1: figs 5a–b. [Belgium.] (Tournaisian.)
A. setosa Jackson, 1929:11–12, pl. 1: 11–12, pl. 1: figs. 6a–b. [Belgium.]

UPPER DEVONIAN

A. fraxinensis Maillieux, 1940:28–30, pl. 2: figs. 18–21a. [Belgium.] (Frasnian.)

Genus *Echinocrinus* L. Agassiz

According to Fell (Durham et al., 1966:U317) in the *Treatise,* this genus is considered an objective synonym of *Archaeocidaris* (suppressed 1CZN Op. 370, 1955).

PENNSYLVANIAN

E.? jacksoni Spreng and Howe, 1963:936–937, figs. 6C–D. [Missouri, U.S.A.] (Missourian.)
E.? remotus Spreng and Howe, 1963:936, figs. 6A–B. [Missouri, U.S.A.] (Virgilian.)

Genus *Permocidaris* Lambert

In the *Treatise* Fell (Durham et al., 1966:U317) provisionally considers *Permocidaris* a subjective synonym of *Archaeocidaris.*

PERMIAN

P.? timorensis Wanner, 1941:298–302, fig. 1, pl. 25: figs. 11–19. [Timor (Island), South Malay Archipelago.]

Genus *Lepidocidaris* Meek and Worthen

MISSISSIPPIAN

L. squamosa (Meek and Worthen) var. *anglica* Hawkins, 1935b:240–242, fig. 1, pl. 14: fig. 1. [England.] (Tournaisian.)

Genus *Polytaxicidaris* Kier

MISSISSIPPIAN

Polytaxicidaris Kier, 1958a:10–11. Type-species: *P. dyeri* Kier, 1958a:11–12, fig. 5, pl. 4B, pl. 5A. [Indiana, U.S.A.] (Osagean.)

P. lirata Kier, 1965:456–457, fig. 13, pl. 56, pl. 57: fig. 1, pl. 58: fig. 3. [Oklahoma, U.S.A.]

Genus *Silurocidaris* Regnéll

UPPER SILURIAN

Silurocidaris Regnéll, 1956:165–166. Type-species: *S. clavata* Regnéll, 1956:166–167, pl. 1: figs. 1–3, pl. 2: figs. 1–2, pl. 4: figs. 3–5. [Sweden.] (Lower Ludlow.)

Genus *Xenocidaris* Schultze

UPPER DEVONIAN

X. caheni Maillieux, 1935:6–8, pl. 1: fig. 1–1d. [Belgium.] (Frasnian.)

X. mariaeburgensis Maillieux, 1940:33–36, pl. 2: figs. 2–17. [Belgium.] (Frasnian.)

X. mariaeburgensis Maillieux praemut. *major* Maillieux, 1940:37–38, pl. 2: figs. 22–22b, pl. 3: figs. 1–21. [Belgium.] (Frasnian.)

Family MIOCIDARIDAE Durham and Melville

Miocidaridae Durham and Melville, 1957:252.

Genus *Miocidaris* Döderlein

LOWER JURASSIC

M. dubari Lambert, 1931b:11–13, pl. 1: figs. 1–6. [North Africa.) (Lower Domerian.)

M. tenuispina Mortensen, 1934a:394–398, figs. 1–3, pl. 21: fig. 2. [England.] (Liassic.)

M. turneri Lörcher, 1930:261–262, pl. 19: figs. 4a–c. [Germany.]

TRIASSIC

M. barzaviae Jekelius, 1932:43–44, pl. 2: figs. 24–26. [Rumania.]

M. curmaturi Jekelius, 1932:43, pl. 2: figs. 21–22. [Rumania.]

M. timorensis Bather, 1929:227–232, pl. 257: figs. 18–20. [Timor (Island), Indonesia.]

LOWER TRIASSIC

M. pakistanensis Linck, 1955:490–493, figs. 1–4. [Pakistan.]

PERMIAN

M. connorsi Kier, 1965:453–456, pl. 55: figs. 1–3. [Texas, U.S.A.] (Bell Canyon Fm., Upper Permian.)

M. permica Wanner, 1941:302–310, figs. 2–3, pl. 25: figs. 1–10, 20–27, pl. 26: figs. 1–6, 23. [Timor (Island), South Malay Archipelago.]

M. platyacantha Nisiyama, 1966:155–156, pl. 1: fig. 3. [Japan.] (Basleonian.)

M. spinulifera Nisiyama, 1966:155, pl. 1: figs. 1–2. [Japan.] (Basleonian.)

Genus *Anaulocidaris* Zittel

UPPER JURASSIC

A. tuberculata Mortensen, 1937:18–19, pl. 2: figs. 11–16. [Germany.]

TRIASSIC

A. vinassai Boni, 1939:328–332, pl. 17: figs. 6–10, 17. [Italy.]

Genus *Dicyclocidaris* Fell

UPPER TRIASSIC

Dicyclocidaris Fell, 1950:83. Type-species: *D. den-*

ticulata Fell, 1950:83–85, figs. 1–3. [New Zealand.] (Karnian.)

Genus *Lenticidaris* Kier

Lower Triassic

Lenticidaris Kier, 1968a:1000–1001. Type-species: *L. utahensis* Kier, 1968a:1001–1004, fig. 1, pl. 121: figs. 1–2, pl. 122: figs. 1–3, pl. 123: figs. 3–9. [Utah, U.S.A.]

Genus *Pachycidaris* Thiéry

Jurassic

Pachycidaris Thiéry, 1928:180. Type-species: *P. thieryi* Collignon and Lambert. [Europe.] (Oxfordian.)

Lower Jurassic

P. bergouniouxi Mercier, 1937c:18, pl. 1: figs. 5–7. [France.] (Domerian.)
P. jeanneti Mercier, 1937c:17, pl. 1: figs. 1–2. [France.] (Toarcian.)
P. piveteaui Mercier, 1937c:18–19, pl. 1: fig. 8. [France.] (Toarcian.)

Genus *Triadocidaris* Döderlein

Triassic

T. coronensis Jekelius, 1932:44, pl. 2: figs. 20a–c. [Rumania.]

Upper Triassic

T. lungauensis Tollmann in Kristan-Tollmann, Tollmann and Geyssant, 1969:21–23, pl. 3: figs. 3–6, pl. 6: figs. 5–8. [Tarntal Mountains, Austria.] (Rhaetic.)

Family CIDARIDAE Gray

Genus *Minicidaris* Deraniyagala

Miocene

Minicidaris Deraniyagala, 1961:153. Type-species: *M. minihagali* Deraniyagala, 1961:154, pl. 5: figs. 3–4. [Ceylon.]

Subfamily HISTOCIDARINAE Mortensen

Genus *Histocidaris* Mortensen

Recent

H. acutispina Mortensen, 1927b:248–250, figs. 4–5, pl. 50: figs. 1–2, pl. 52: fig. 2, pl. 77: fig. 4. [Malaysia.]
H. australiae Mortensen, 1928:66. [Off coast of New South Wales, Australia.]
H. carinata Mortensen, 1928:66. [Off Kyushu Island, South Japan.]
H. crassispina Mortensen, 1928:66. [Off New South Wales, Australia.]
H. denticulata Koehler, 1927:10–14, pl. 1: figs. 1–3, 6, 7, pl. 2: fig. 1, pl. 23: fig. 1. [Bay of Bengal, Indian Ocean.]
H. formosa Mortensen, 1928:65–66. [Kei Islands, Indonesia Malay Archipelago.]
H. magnifica Mortensen, 1927b:245–248, figs. 1–3, pls. 48–49, pl. 76. [Malaysia.]
H. nuttingi Mortensen, 1926:6–7, pl. 1: figs. 1–2, 4, pl. 2: fig. 6, pl. 3: fig. 9, pl. 4: figs. 11–12. [Off Havana, Cuba.]
H. recurvata Mortensen, 1928:66. [Kei Islands, Indonesia Malay Archipelago.]

Middle Miocene

H. geneffensis Lambert, 1931d:204, pl. 5: fig. 50. [Egypt.] (Helvetian.)
H. oranensis Lambert, 1931c:83–84, pl. 3: figs. 24–25. [Algiers, North Africa.] (Upper Sahelian = Upper Tortonian.)

Oligocene

H. mckayi Fell, 1954:30–32, fig. 15, pls. 7A–J, pl. 9D, pl. 12G, pl. 13C, pl. 14E. [New Zealand.] (Duntroonian to Waitakian.)

Subfamily CTENOCIDARINAE Mortensen

Genus *Ctenocidaris* Mortensen

Recent

C. polyplax Mortensen, 1950a:296–297, pl. 8: figs. 1, 2, 8, pl. 9: fig. 4. [Antarctic Ocean.]

Genus *Austrocidaris* H. L. Clark

RECENT

A. gigantea H. L. Clark, 1925a:28, pl. 3: figs. 1–2. [Antarctic, South Victoria Land, off Coulman Island.]

A. platyacantha H. L. Clark, 1925a:29–30, pl. 2: fig. 1. [Antarctic seas (south of Coulman and Balleny Islands).]

MIOCENE

A. operta Philip, 1964:463–464, figs. 5d–e, pl. 61: figs. 5–6, pl. 64: figs. 1–4, 8. [Southeastern Australia.]

Genus *Eurocidaris* Mortensen

RECENT

E. nutrix Thomson var. *longispina* Mortensen, 1928:67. [Heard Island, Southern Ocean.]

E. rugosa Koehler, 1926:17–23, pl. 99: figs. 4–9, pl. 100: figs. 1–6, pl. 101: figs. 1–7, pl. 102: figs. 1–7, pl. 119: fig. 2. [Antarctic.]

Genus *Homalocidaris* Mortensen

RECENT

Homalocidaris Mortensen, 1928:67. Type-species: *Austrocidaris gigantea* H. L. Clark. [Antarctic.]

Genus *Notocidaris* Mortensen

RECENT

N. platyacantha H. L. Clark var. *contracta* Koehler, 1926:13–14, pl. 94: fig. 5, pl. 96: figs. 1–6, pl. 99: fig. 5. [Antarctic.]

N. remigera Mortensen, 1950a:298–299, pl. 5: figs. 1–2, pl. 8, figs. 3–4. [Antarctic Ocean.]

N. spinosa Koehler, 1926:14–17, pl. 97: figs. 1–6, pl. 98: figs. 1–7, pl. 99: figs. 1–3, pl. 112: fig. 7, pl. 114: fig. 7, pl. 119: fig. 6. [Antarctic.]

MIDDLE PLIOCENE

N. vellai Fell, 1954:43–45, pl. 15A–M. [New Zealand.] (Lower-upper Nukumaruan.)

Subfamily GONIOCIDARINAE Mortensen

Genus *Goniocidaris* Desor in Agassiz and Desor

RECENT

G. alba Mortensen, 1928:67. [Off Kyushu Island, South Japan.]

G. australiae Mortensen, 1928:68. [Off the coast of New South Wales, Australia.]

G. balinensis Mortensen, 1932b:148–151, figs. 1–4, pl. 1: figs. 1–5, pl. 11: fig. 7, pl. 13: figs. 11–14. [Bali Sea, East Indies.]

G. corona Baker, 1968:200–203, fig. 1, pl. 1. [Northeastern New Zealand.]

G. crassa Mortensen, 1928:68. [Mindanao Island, south of Philippine Islands.]

G. impressa Koehler, 1926:24–28, pl. 91: figs. 1–8, pl. 92: figs. 1–5, 8–14, pl. 119: fig. 1. [Antarctic.]

G. indica Mortensen, 1939b:3–6, figs. 1–2, pl. 1: figs. 1–4, pl. 5: figs. 4, 7, pl. 6: figs. 17–18, [In Indian Ocean between Pemba Island and East Africa.]

G. magi Pawson, 1964:67–70, figs. 1–4, pl. 1. [New Zealand.]

G. sibogae Mortensen, 1928:68. [Molucca Sea, Malay Archipelago.]

G. spinosa Mortensen, 1928:67. [Amboina, Indonesia.]

PLIOCENE

G. mortenseni Chapman and Cudmore, 1934:139–140, pl. 14: figs. 23, 27. [South Australia.]

G. tubaria (Lamarck) *hallettensis* Philip, 1964:458–460, figs. 4g, 4j, 4l, pl. 66: figs. 1, 2, 12, pl. 67: figs. 4–6. [Southeastern Australia.]

MIOCENE

G. praecipua Philip, 1964:455–456, figs. 4i, 4k, 4m, pl. 61: figs. 10–12. [Southeastern Australia.]

OLIGOCENE

G. hebe Fell, 1954:37–39, pls. 4A–J, 7D, 8D. [New Zealand.] (Duntroonian to Hutchinsonian.)

G. holguinensis Sánchez Roig, 1949:31. [Cuba.]

G. murrayensis Chapman and Cudmore, 1934:138–139, pl. 14: figs. 20–22. [South Australia.]

G. pusilla Fell, 1954:39–40, pls. 5H, 13D, 14C. [New Zealand.] (Otaian.)

EOCENE

G. habanensis Sánchez Roig, 1949:30–31, pl. 1: fig. 5. [Cuba.]

Genus *Adelcidaris* Cotton and Godfrey

In the *Treatise* Fell (Durham et al., 1966:U325) states that *Adelcidaris* is a nomen vanum for *Goniocidaris*.

RECENT

Adelcidaris Cotton and Godfrey, 1942:217. Type-species: *Goniocidaris tubaria* (Lamarck.)

Subgenus *Goniocidaris* (*Aspidocidaris*) Mortensen

RECENT

Goniocidaris (*Aspidocidaris*) Mortensen, 1928:67. Type-species: cited as *Goniocidaris clypeata* Döderlein. According to Fell (Durham et al., 1966:U325) the type is *Goniocidaris alba* Mortensen. [Japan, Indonesia, Australia, New Zealand.]

Subgenus *Goniocidaris* (*Cyrtocidaris*) Mortensen

RECENT

Goniocidaris (*Cyrtocidaris*) Mortensen, 1927b:264. Type-species: *G. tenuispina* Mortensen, 1927b: 264–269, figs. 10–11, pl. 57: figs. 1–2, pl. 58: fig. 1, pl. 59: fig. 2, pl. 61: figs. 6–8, pl. 63: fig. 5, pl. 73: figs. 5–6, pl. 79: figs. 1–3. [Philippines.]

G. (*C.*) *tenuispina* Mortensen var. *major* Mortensen, 1927b:270–272, fig. 13, pl. 58: fig. 2, pl. 79: fig. 9. [Philippines.]

G. (*C.*) *tenuispina* Mortensen var. *tuberculata* Mortensen, 1927b:269–270, fig. 12, pl. 57: fig. 3, pl. 59: fig. 1, pl. 61: figs. 9–11, pl. 73: figs. 7–8, pl. 79: figs. 4–8. [Philippines.]

Subgenus *Goniocidaris* (*Discocidaris*) Mortensen

RECENT

Goniocidaris (*Discocidaris*) *peltata* Mortensen, 1927b:261–264, fig. 9, pls. 55–56, pl. 74: figs. 4–5, pl. 78: figs. 9–12. [Malaysia.]

Genus *Delocidaris* Philip

MIOCENE

Delocidaris Philip, 1964:464–466. Type-species: *Goniocidaris prunispinosa* Chapman and Cudmore.

Genus *Psilocidaris* Mortensen

RECENT

Psilocidaris Mortensen, 1927b:282–283. Type-species: *P. echinulata* Mortensen, 1927b:283–285, fig. 18, pl. 60: figs. 1–2, pl. 61: figs. 4–5, pl. 63: fig. 4, pl. 73: figs. 3–4, pl. 78: figs. 3–5. [Malaysia.]

Genus *Rhopalocidaris* Mortensen

RECENT

Rhopalocidaris Mortensen, 1927b:272–273. [Philippines.] Type-species: *Cidaris* (*Discocidaris*) *hirsutispinus* de Meijere. [Malay Archipelago.]

R. hirsutispinus (de Meijere) var. *viridis* Mortensen, 1927b:273–275, fig. 14, pl. 61: fig. 2, pl. 73: figs. 1–2, pl. 78: figs. 6–8. [Philippines.]

R. rosea Mortensen, 1928:68. [Japanese seas (Sagami Sea; off Goto Island).]

R. rosea Mortensen *tenuis* Mortensen, 1928:68–69. [Off Kei Islands, Indonesia.]

Genus *Schizocidaris* Mortensen

RECENT

S. fasciata Mortensen, 1927b:280–282, fig. 17, pl. 61: fig. 3, pl. 74: fig. 3, pl. 78: fig. 2. [Philippines.]

Subfamily STEREOCIDARINAE Lambert

Genus *Stereocidaris* Pomel

Recent

S. excavata Mortensen, 1932b:151–154, fig. 5, pl. 2: figs. 1–2, pl. 3: figs. 1–5, pl. 4: fig. 2, pl. 11: figs. 1–2. [South Africa.]
S. grandis (Döderlein) var. *hyatorina* Mortensen, 1928:69. [Off Kyushu, South Japan.]
S. grandis (Döderlein) var. *rubra* Mortensen, 1927b: 301, pl. 68: figs. 1–2. [Malaysia.]
S. granularis Mortensen, 1928:69. [Philippines, Molucca Sea.]
S. hawaiiensis Mortensen, 1928:69. [Hawaiian seas.]
S. indica Döderlein var. *philippinensis* Mortensen, 1928:71. [Philippine seas.]
S. nascaensis Allison, Durham and Mintz, 1967: 10–13, figs. 1–4, 15–20. [West from Chile.]
S. purpurascens Mortensen, 1928:70. [Off Kei Islands, Indonesia.]
S. reducta Mortensen, 1939b:7–9, fig. 3, pl. 2: figs. 1–4, pl. 5: fig. 1, pl. 6: figs. 14–16. [Maldive Islands, Indian Ocean.]
S. sceptriferoides Döderlein var. *lamellata* Mortensen, 1927b:304–306, fig. 22, pls. 71–72, pl. 74: figs. 8–9, pl. 78: figs. 13–14. [Malaysia.]
S. sceptriferoides Döderlein var. *lanceolata* Mortensen, 1928:71. [Sagami Sea, Japan.]
S. squamosa Mortensen, 1928:70. [Saya de Malha Bank, Indian Ocean.]
S. stylifera Mortensen, 1928:69. [Philippines.]
S. sulcatispinis Mortensen, 1928:70. [Off Celebes, Kei Islands, Indonesia.]
S. tubifera Mortensen, 1928:70. [Kei Islands, Philippines.]
S. tubifera Mortensen var. *impressa* Mortensen, 1928:70. [Kei Islands, Philippines.]

Middle Pliocene

S. hutchinsoni Fell, 1954:35–36, pls. 6A–D, 6F–H, 6J–L, 9E. [New Zealand.] (Nukumaruan.)

Lower Pliocene

S. grandis (Döderlein) *fusana* Nisiyama, 1966:159–160, pl. 1: fig. 4. [Japan.] (Kurotaki Fm.)

Upper Eocene

S. cudmorei Philip, 1964:440–441, figs. 1a–d, 1i–j, pl. 60. [Southeastern Australia.]
S. fosteri Philip, 1964:441–442, figs. 1f–g, pl. 59: fig. 6, pl. 65: fig. 3. [Southeastern Australia.]
S.? hispida Philip, 1964:444–446, fig. 1h, pl. 61: figs. 8–9. [Southeastern Australia.]
S. inermis Philip, 1964:442–444, figs. 2b, 2c, 2e, 2f, pl. 59: figs. 1–3, 7, 8. [Southeastern Australia.]
S.? intricata Philip, 1964:446–447, fig. 1e, pl. 59: fig. 4. [Southeastern Australia.]

Middle Eocene

S. destefanii Innocenti, 1924:41–43, pl. 2: figs. 1–6. [Istria, former Italian province ceded to Yugoslavia in 1947.]

Cretaceous

S. baileyi Fell, 1962:27–29, pl. 1: figs. 1–3. [California, U.S.A.]
S. bolli Krenkel, 1928:13–14, pl. 1: figs. 4–12. [Germany. Nomen nudum for *Cidaris spinosa* Boll, 1846.]
S. jaekeli Krenkel, 1928:15–16, pl. 1: figs. 18–24. [Germany.]
S. jaekeli Krenkel var. *latior* Krenkel, 1928:17, pl. 1: figs. 21–22. [Germany.]
S. jaekeli Krenkel var. *undulifera* Krenkel, 1928: 16–17, pl. 1: figs. 23–24. [Germany.]
S. rugensis Krenkel, 1928:15, pl. 1: figs. 15–17. [Germany. Nomen nudum for *Cidaris alatus* Boll, 1846.]

Upper Cretaceous

S. jaekeli Krenkel var. *grandior* Krenkel, 1928:16, pl. 1: figs. 18–20. [Germany.] (Upper Senonian.)

Lower Cretaceous

S. hudspethensis Cooke, 1955:89, pl. 18: figs. 1–4. [Texas, U.S.A.] (Lower Cenomanian to upper Albian.)

Genus *Phalacrocidaris* Lambert

PLEISTOCENE/PLIOCENE

S. (*Phalacrocidaris*) *japonica* (Döderlein) *multipora* Nisiyama, 1966:161–162, pl. 1: figs. 5–6. [Japan.] (Koshiba Fm.)

Genus *Typocidaris* Pomel

In the *Treatise* Fell (Durham et al., 1966:U325) considers *Typocidaris* a subjective synonym of *Stereocidaris.*

PALEOCENE

T. danica Ravn, 1928:23–25, fig. 7, pl. 2: figs. 9–12. [Denmark.] (Danian.)
T. rosenkrantzi Ravn, 1928:21–23, fig. 6, pl. 1: figs. 9–15, pl. 2: fig. 13. [Denmark.] (Danian.)

UPPER CRETACEOUS

T. baumbergeri Jeannet, 1934d:1–3, fig. 1, pl. i: figs. 1–2. [Austria.] (Urgonian.)
T. falgarsensis Lambert, 1933d:184–185, pl. 1: figs. 2–5. [Spain.] (Maestrichtian.)

LOWER CRETACEOUS

T. thalebensis Lambert, 1931c:68, fig. 4. [Algiers, North Africa.] (Albian.)

Genus *Chorocidaris* Ikeda

RECENT

Chorocidaris Ikeda, 1941:85–86. Type-species: *C. micca* Ikeda, 1941:85–86, pl. 6: figs. 1–8. [Japan.]

Genus *Compsocidaris* Ikeda

RECENT

Compsocidaris Ikeda, 1939a:160–161. Type-species: *C. pyrsacantha* Ikeda, 1939a:160–164, pls. 7–10. [Bonin Islands (Japan), Western Pacific Ocean.]

Subfamily RHABDOCIDARINAE Lambert

Genus *Rhabdocidaris* Desor

LOWER CRETACEOUS

R. arginensis Weber, 1934:22–23, 80, pl. 3: figs. 7a–g. [Crimea, U.S.S.R.] (Hauterivian.)
R. brasiliensis Maury, 1936:262–263, pl. 2: figs. 4–5. [Brazil.] (Middle Albian.)
R. buraganensis Weber, 1934:23, 80, pl. 3: figs. 8a–e. [Crimea, U.S.S.R.] (Hauterivian.)

UPPER JURASSIC

R. boehmi Bantz, 1969:7, pl. 3: fig. 1. [Bavaria.] (Lower Tithonian, Malm $Zeta_{1/2}$, facies of Solnhofen.)
R. cotteaui Jeannet, 1929:37–39, fig. 17, pl. 4: figs. 7–9, pl. 5: figs. 31–33, 41–43. [Switzerland.] (Lower Kimmeridgian.)
R. desori Jeannet, 1929:26–28, figs, 1, 4, 13–14, pl. 3: figs. 7–10, pl. 5: fig. 44. [Switzerland.] (Lower Kimmeridgian.)
R. mayri Bantz, 1969:7–8, pl. 7: fig. 1. [Bavaria.] (Lower Tithonian, Malm $Zeta_2$.)
R. nunlisti Jeannet, 1929:13–14, pl. 2: figs. 2–3, pl. 5: figs. 10–12. [Switzerland.] (Lower Kimmeridgian.)
R. orbignyiformis Jeannet, 1929:35–37, pl. 4: figs. 5–6, pl. 5: figs. 28–30, 37–39. [Switzerland.] (Upper Kimmeridgian.)
R. rauraca Jeannet, 1929:39–40, pl. 4: figs. 10–12, pl. 5: figs. 16–18. [Switzerland.] (Upper Rauracian.)
R. stingelini Jeannet, 1929:41, pl. 2: fig. 11, pl. 5: figs. 34–36. [Switzerland.] (Upper Kimmeridgian.)
R. yailensis Weber, 1934:21–22, 79–80, pl. 3: fig. 6. [Crimea, U.S.S.R.) (Sequanian.)

MIDDLE JURASSIC

R. bigoti Mercier, 1931:94–97, figs. 1–4. [France.] (Upper Bathonian.)
R. kisombyensis Lambert, 1936c:12, pl. 1 :figs. 5–7. [Madagascar, off East Africa.] (Bathonian.)
R. turbeti Lambert, 1933b:33, pl. 3: fig. 8. [North Africa.] (Bajocian.)

LOWER JURASSIC

R. chouberti Lambert, 1937:42, pl. 4: figs. 12–13. [Morocco.] (Upper Domerian.)

Genus *Actinocidaris* Mortensen

RECENT

Actinocidaris Mortensen, 1928:73. [Hawaii.] Type-species: *Phyllacanthus thomasi* A. Agassiz and H. L. Clark.

Genus *Chondrocidaris* A. Agassiz

RECENT

C. brevispina H. L. Clark, 1925a:11, pl. 1: figs. 1–2. [Loyalty Islands, Southwestern Pacific Ocean.]

MIOCENE

C. problepteryx H. L. Clark, 1945:314–315, pl. 41: fig. E. [Fiji, South Pacific Ocean.]

LOWER MIOCENE

C. marianica Nisiyama, 1966:171–172, pl. 1: figs. 19–20. [Mariana Island, West Pacific Ocean.]

MIOCENE/UPPER OLIGOCENE

C. clarkii Chapman and Cudmore, 1934:141–142, pl. 13: figs. 15–17, pl. 15: fig. 31. [South Australia.]

Genus *Megacidaris* Thiéry

LOWER JURASSIC

M. cottreaui Mercier, 1937c:19–20. [France.] (Toarcian.]

Genus *Parhabdocidaris* Thiéry

UPPER JURASSIC

Parhabdocidaris Thiéry, 1928:181. [Europe.] Type-species: *Rhabdocidaris varusensis* Cotteau.

Genus *Phyllacanthus* Brandt

RECENT

P. forcipulatus Mortensen, 1936b:307–309, 1 fig., pl. 10: figs. 1–4, pl. 11: figs. 1–4, pl. 12: figs. 1–10. [Indian Ocean.]

P. irregularis Mortensen, 1928:74. [West and south Australia.]

P. irregularis Mortensen *kimberi* Cotton and Godfrey, 1942:216–217, pl. 12: figs. 1–2. [South Australia.]

PLEISTOCENE

P. tylotus H. L. Clark, 1945:313–314, pl. 41: fig. D. [Fiji, South Pacific Ocean.]

MIDDLE PLIOCENE

P. serratus Philip, 1963d:219, fig. 2e, pl. 25: figs. 1, 2, 4. [Southeastern Australia.]

MIOCENE

P. clarkii (Chapman and Cudmore) *impensus* Philip, 1963d:217–218, fig. 5c, pl. 25: figs. 9–10, pl. 26: figs. 2, 5, 9. [Southeastern Australia.]

P. dubius Brandt var. *sundaica* Martin in Jeannet and Martin, 1937:223–224. [Java, Indonesia.]

P. wellmanae Fell, 1954:51–53, pls. 1C, 1D, 2. [New Zealand.] (Kapitean.)

LOWER PLIOCENE/UPPER OLIGOCENE

P. duncani Chapman and Cudmore, 1934:131–133, pl. 12: figs. 7–9, pl. 15: fig. 33. [South Australia.]

MIDDLE MIOCENE/LOWER OLIGOCENE

P. duncani Chapman and Cudmore *gambierensis* Philip, 1963d:213–214, fig. 4, pl. 23: figs. 2, 10, pl. 24: figs. 1–3. [Southeastern Australia.] (Janjukian.)

P. titan Fell, 1954:49–51, pls. 1B, 3, 10A, 11D. [New Zealand.] (Duntroonian-Waiauan.)

Lower Cretaceous

P. texanus Whitney and Kellum, 1966:245–248, pl. 2: figs. 13–14. [Texas, U.S.A.] (Trinity Group. Aptian.)

P. tysoni Whitney and Kellum, 1966:244–245, pl. 2: figs. 4–6. [Texas, U.S.A.] (Trinity Group. Aptian.)

Genus *Leiocidaris* Desor

In the *Treatise* Fell (Durham et al., 1966:U330) considers *Leiocidaris* a subjective synonym of *Phyllacanthus.*

Upper Oligocene

L. cojimarensis Lambert and Roig in Sánchez Roig, 1949:31. [Cuba. Although Lambert and Roig considered this species Miocene, Brodermann (1949:324) says it is Upper Oligocene.]

L. spinidentatus Palmer in Sánchez Roig, 1949:32, pl. 1: fig. 3. [Cuba. Brodermann (1949:324) says it is Upper Oligocene.]

Middle Eocene

L. mortenseni Lambert, 1933a:30, pl. 1: figs. 18–21. [Madagascar, off East Africa.] (Lutetian.)

Lower Eocene

L. cottreaui Lambert in Lambert and Pérébaskine, 1929:474, pl. 38: figs. 6, 7. [North Africa.]

Cretaceous

L. leoni Lambert and Roig in Sánchez Roig, 1926: 33–34, pl. 4: figs. 5, 6. [Cuba.]

Upper Cretaceous

L. madrugensis Sánchez Roig, 1949:29–30, 32, pl. 1: figs. 2, 4. [Cuba.] (Maestrichtian.)

L. sanfilippoi Checchia-Rispoli, 1932a:2–5, figs. 1–2, pl. 1: figs. 1–6. [North Africa.] (Maestrichtian.)

L. stefaninii Shalem, 1933:19–22, pl. 2: figs. 1a–d. [Palestine.] (Cenomanian.)

L. tripolitana Checchia-Rispoli, 1933b:3–6, fig. 1, pl. 1: figs. 1–4, pl. 2: figs. 1–3. [North Africa.] (Maestrichtian.)

Lower Cretaceous

L. karakachi Weber, 1934:42–43, 83, pl. 7: figs. 2a–c. [Crimea, U.S.S.R.] (Barremian.)

L. thiebaudi Jeannet, 1955:555–557, pl. 26: figs. 1–7. [Angola, southwest Africa.] (Albian.)

Upper Jurassic

L. rollieri Jeannet, 1933d:4–6, pl. 1: figs. 4, 8, 10. [Switzerland. First figured in Jeannet (1931).] (Lower Sequanian.)

L. tobleri Jeannet, 1933d:2–4, pl. 1: figs. 1–3, 6, 7, 11. [Switzerland. First figured in Jeannet (1931).] (Lower Kimmeridgian.)

Genus *Porocidaris* Desor

Recent

P. sibogae Mortensen, 1934a:166. [Malaysia, off Kei Islands.]

Upper Eocene

P. lopezi Sánchez Roig, 1953c:137, pl. 1: fig. 4. [Cuba.]

Paleocene

P. farafrensis Hassan, 1969:15–16, pl. 1: figs. 1–5. [Farafra Oasis, Upper Egypt.] (Landanian.)

Genus *Prionocidaris* A. Agassiz

Recent

P. baculosa (Lamarck) var. *lineata* H. L. Clark, 1925a:14. [Indian Ocean, Seychelles and Natal islands.]

P. badia H. L. Clark, 1925a:14–15, pl. 2: fig. 2. [Mauritius Island, Indian Ocean.]

P. bispinosa (Lamarck) var. *laevis* H. L. Clark, 1938:371–372, pl. 26: fig. 1. [Western Australia.]

P. bispinosa (Lamarck) var. *nigrobrunnea* Mortensen, 1928:74. [Shark's Bay, Western Australia.]

Pleistocene-Pliocene/Lower Miocene

P. malindiensis Stephenson, 1968:560–562, figs. 1f, 1h–i, 2f–i. [Kenya, East Africa.] (Baratumu and Midadoni Beds.)

Lower Miocene

P. praeverticillata Stephenson, 1968:555–560, figs. 1a–c, 2a–e. [Kenya, East Africa.] (Baratumu Beds. Aquitanian-Burdigalian.)

Miocene/Upper Oligocene

P. scoparia Chapman and Cudmore, 1934:134–135, pl. 12: figs. 10–11, pl. 15: figs. 28–30. [South Australia.]

Oligocene

P. haasti Fell, 1954:54–55, pls. 10C, 11F–H. [New Zealand.] (Duntroonian-Otaian.)

Middle Eocene

P. marchalli Fell, 1954:54, pls. 8B, 8C, 8I, 9C. [New Zealand.] (Bortonian.)

Subfamily CIDARINAE Gray

Genus *Cidaris* Leske

Recent

C. cidaris (Linnaeus) var. *meridionalis* Mortensen, 1928:71. [Bay of Biscay-Canaries-Madeira, North Atlantic.]

C. mabahissae Mortensen, 1939b:9–11, fig. 4, pl. 1: figs. 5–6, pl. 4: fig. 4, pl. 5: fig. 5, pl. 6: figs. 3, 5, 8, 12, 13. [Maldive Islands, Indian Ocean off southern India.]

Miocene

C. aculeata Martin in Jeannet and Martin, 1937: 219–220, fig. 3. [Dutch East Indies, West Pacific Ocean.]

C. cojimarensis Lambert and Roig in Sánchez Roig, 1926:32, pl. 3: fig. 3. [Cuba.]

Oligocene

C. assulaeformis Malaroda, 1951:158–159, pl. 2: figs. 6, 7, 11–13. [Italy.]

C. pelettensis Castex, 1930:13–14, pl. 1: fig. 1. [France.) (Stampian.)

C. vepres Lambert, 1931c:79, pl. 3: fig. 22. [West Sarno, Algeria.] (Stampian.)

Upper Oligocene

C. duncani Socin, 1942:48–49. [India and Somaliland.] (Chattian.)

Eocene

C. gymnozona Arnold and H. L. Clark, 1927:9–11, pl. 1: fig. 1–3. [Jamaica, Caribbean Sea.]

C. sigillum Lambert, 1931c:78, pl. 3: figs. 20–21. [Algiers, North Africa.]

Upper Eocene

C. dubaleni Castex, 1930:12–13. [France.] (Bartonian or Stampian.)

C. hemispinosa Lambert, 1933d:188–189, pl. 1: figs. 6–9. [Spain.] (Probably Lutetian.)

C. isnardi Lambert, 1924a:7. [France.] (Bartonian.)

Upper Cretaceous

C. mahafalensis Besairie, 1930:226, pl. 22: fig. 5. [Madagascar, east coast of Africa.] (Upper Senonian-Campanian.)

C. majungensis Lambert, 1933a:11–12, pl. 1: figs. 4–7. [Madagascar, east coast of Africa.] (Maestrichtian.)

C. meslei Lambert, 1931c:72, pl. 3: fig. 17. [Algiers, North Africa.] (Santonian.)

Lower Cretaceous

C. enissalensis Weber, 1934:30, 81, pl. 5: fig. 1. [Crimea, U.S.S.R.] (Upper Valanginian.)

C. mullerriedi Lambert, 1935c:365–366, pl. 16: figs. 13–14. [Mexico.] (Aptian.)

C. theodosiae Weber, 1934:33, 34, 81, 82, pl. 5: figs. 10a–e. [Crimea, U.S.S.R.] (Hauterivian-Valanginian.)

Triassic

C. anellatus De Gregorio, 1930b:29, pl. 6: figs. 12–15. [Italy.]
C. ecki Assmann, 1925:517–518, pl. 9: figs. 7–10. [Germany.]
C. longispina Assmann, 1937:22–23, pl. 5: figs. 7–10. [Germany.]
C. mirandus De Gregorio, 1930b:29, pl. 6: fig. 11. [Italy.]
C. percostatus De Gregorio, 1930b:29, pl. 6: figs. 16–17. [Italy.]
C. remifera Assmann, 1937:23–24, pl. 5: fig. 17. [Germany.]
C. tuberculinus De Gregorio, 1930b:29, pl. 6: figs. 5–6. [Italy.]

Upper Triassic

C. aculeata Leonardi and Lovo, 1950:10, pl. 1: fig. 8. [Italy.] (St. Cassian Beds. Karnian.)
C. crenulata Leonardi and Lovo, 1950:6, pl. 2: figs. 27–29. [Italy.] (St. Cassian Beds. Karnian.)
C. dorsata Braun var. *coronata* Leonardi and Lovo, 1950:8, pl. 2: fig. 20. [Italy.] (St. Cassian Beds. Karnian.)
C. dorsata Braun var. *jugulata* Leonardi and Lovo, 1950:7–8, pl. 2: figs. 15–19. [Italy.] (St. Cassian Beds. Karnian.)
C. gilletae Lambert, 1927b:8–9, figs. 1–2. [Mikulschütz, formerly in Silesia, Germany, now in Poland. New name for *C. transversa* von Meyer (1847:576). Figured by Schauroth (1859:293–294, pl. 1: figs. 8a–d).] (Norian.)
C. magna Leonardi and Lovo, 1950:5, pl. 2: fig. 26. [Italy.] (St. Cassian Beds. Karnian.)
C. pusilla f. Leonardi and Lovo, 1950:8, pl. 1: fig. 7. [Italy.] (St. Cassian Beds. Karnian.)
C. pyramidalis Leonardi and Lovo, 1950:10, pl. 2: fig. 25. [Italy.] (St. Cassian Beds. Karnian.)
C. raibliana Bather var. *capitata* Leonardi and Lovo, 1950:9, pl. 1: figs. 9–10, pl. 2: figs. 11–14. [Italy.] (St. Cassian Beds. Karnian.)
C. scrobiculata Braun var. *rumerlensis* Leonardi and Lovo, 1950:6–7, pl. 1: figs. 3–5. [Italy.] (St. Cassian Beds. Karnian.)
C. staulinensis Leonardi and Lovo, 1950:6, pl. 2: fig. 30. [Italy.] (St. Cassian Beds. Karnian.)
C. trigona (Münster) var. *cuspidata* Leonardi and Lovo, 1950:7, pl. 1: fig. 6. [Italy.] (St. Cassian Beds. Karnian.)
C. zardinii Leonardi and Lovo, 1950:9–10, pl. 2: figs. 21–24, 26b. [Italy.] (St. Cassian Beds. Karnian.)

Permian

C. bitauniensis Wanner, 1941:310–311, pl. 26: figs. 7–10, 24. [Timor Island, South Malay Archipelago.]
C. jonkeri Wanner, 1941:311–312, pl. 26: figs. 11–13. [Timor Island, South Malay Archipelago.]

Genus *Dorocidaris* A. Agassiz

In the *Treatise* Fell (Durham et al., 1966:U331) considers *Dorocidaris* a subjective synonym of *Cidaris*.

Recent

D. lorioli Koehler, 1927:21–23, pl. 3: figs. 2–5. [Andaman Islands, Bay of Bengal.]

Miocene

D. henjamensis Clegg, 1933:17–18, pl. 2: figs. 3a–c. [Persia (Iran).]

Oligocene

D. exilis Lambert, 1931c:79, pl. 3: fig. 23. [Algiers, North Africa.]

Cretaceous

D. molineti Lambert, 1931e:299–300, fig. 3, pl. 17: figs. 14–15. [Cuba.]

Upper Cretaceous

D. basseae Besairie and Lambert, 1930:115, pl. 9: figs. 7–9. [Zululand, East Africa.] (Turonian.)

D. besairiei Lambert, 1936c:23, pl. 3: figs. 1–6. [Madagascar, off East Africa.] (Upper Campanian.)
D. ciryi Lambert, 1935f:513–515, pl. 57: figs. 1–2. [Spain.] (Cenomanian.)
D. demujiensis Sánchez Roig, 1949:30, pl. 1: fig. 1. [Cuba.]
D. eybrunnensis Dacqué, 1939:79, pl. 3: fig. 12. [Germany.] (Lower Turonian to Upper Cenomanian.)
D. garciai Sánchez Roig, 1952c:2, pl. 1: fig. 3. [Cuba.]
D. madrugensis Sánchez Roig, 1949:29–30, 32, pl. 1: figs. 2, 4. [Havana, Cuba.]
D. taouzenis Lambert, 1933b:61, pl. 2: figs. 1–3. [North Africa.] (Cenomanian.)

Lower Cretaceous

D. bitakensis Weber, 1934:37, 82, pl. 6: figs. 2a–e. [Crimea, U.S.S.R.] (Barremian.)
D. urcustensis Weber, 1934:38–39, 82–83, pl. 6: figs. 4a–h. [Crimea, U.S.S.R.] (Hauterivian.)

Genus *Balanocidaris* Lambert

Lower Cretaceous

B. darderi Lambert, 1935b:360, pl. 41: fig. 8. [Spain.] (Aptian.)
Cidaris (Balanocidaris) deserti El-Din Mahmoud, 1955:158–159, pl. 18: figs. 1–3. [Egypt.] (Middle Albian.)
B. tingitana Lambert, 1933b:62, pl. 2: figs. 7–9. [North Africa.] (Valanginian.)

Upper Jurassic

B. japonica Nisiyama, 1966:166–167, pl. 1: figs. 15–18. [Japan.] (Probably Callovian to Tithonian.)

Middle Jurassic

B. besairiei Lambert, 1933a:9, pl. 1: figs. 1–3. [Madagascar, east coast of Africa.] (Perhaps Lower Bajocian.)

Upper Triassic

B. migliorinii Venzo, 1934b:157–158, pl. 13: figs. 13a–b. [Rhodes Island, Southeastern Aegean Sea.] (Ladinian-Raiblian.)
B. subdorsata Venzo, 1934b:156–157, pl. 13: figs. 11–12. [Rhodes Islands, Southeastern Aegean Sea.] (St. Cassian Beds to Raiblian. Karnian.)

Genus *Cyathocidaris* Lambert

Upper Cretaceous

C. septemtrionalis Schmitz, 1970:37–38, pl. 1: figs. 1–2. [Northern Germany.] (Senonian.)

Genus *Eucidaris* Pomel

Recent

E. australiae Mortensen, 1950a:291–293, figs. 1–4, pl. 8: figs. 5–7, pl. 9: figs. 3, 5, 6. [Western Australia.]
E. clavata Mortensen, 1928:73. [St. Helena and Ascension, off west coast of Africa, South Atlantic Ocean.]
E. tribuloides (Lamarck) *africana* f. *attenuata* A. M. Clark, 1955:51, pl. 2. [Gold Coast of Africa.]

Lower Miocene/Oligocene

E. strombilata Fell *felli* Philip, 1963d:202, pl. 22: figs. 1, 2, 5, 9. [Southeastern Australia.] (Janjukian and Longfordian(?).)

Lower Oligocene

E. coralloides Fell, 1954:46, pls. 11B, 11C. [New Zealand.] (Whaingaroan.)

Lower Oligocene/Upper Eocene

E. strobilata Fell, 1954:47–48, pls. 8A, 8E–H, 8J, 10B, 11E. [New Zealand.]

Genus *Hesperocidaris* Mortensen

RECENT

Hesperocidaris Mortensen, 1928:73, 74. [California, U.S.A., Western Panama and Ecuador.] Type-species: *Dorocidaris panamensis* A. Agassiz.

H. asteriscus H. L. Clark, 1948:233–234, pl. 36: fig. 4, pl. 37: figs. 5–6. [Panama, off Medidor Island.]

H. houstoniana A. H. Clark, 1939:12–16, pl. 4: figs. 10–11, pl. 5: figs. 12–14. [Galápagos Islands, off Ecuador.]

Genus *Kionocidaris* Mortensen

RECENT

Kionocidaris Mortensen, 1932b:165. Type-species: *K. striata* Mortensen, 1932b:165–168, figs. 9, 11–12, pl. 5: fig. 7, pl. 9: figs. 4–6, pl. 11: figs. 3, 9, pl. 12: figs. 1–2, pl. 13: figs. 4, 6–7. [Natal coast, Africa.]

K. striata Mortensen var. *teretispina* Mortensen, 1932b:168, fig. 10, pl. 13: fig. 5. [Natal coast, Africa.]

Genus *Lissocidaris* Mortensen

RECENT

Lissocidaris Mortensen, 1939b:11–12. Type-species: *L. fusca* Mortensen, 1939b:12–14, figs. 5–6, pl. 3: figs. 1–3, pl. 5: fig. 2, pl. 6: figs. 1, 2, 6, 19. [Maldive Islands, off southern India.]

Genus *Paracidaris* Pomel

UPPER JURASSIC

P. loppei Castex, 1947:26, pl. 1: fig. 1. [France.] (Upper Sequanian.)

P. nunlisti Jeannet, 1927:393–396, pl. 12: figs. 1–6b. [Switzerland.] (Argovian.)

MIDDLE JURASSIC

P. lagorgettei Lambert, 1933c:173–174, pl. 7: figs. 5–7. [France.] (Callovian.)

UPPER TRIASSIC

P. jeanneti Lambert, 1924c:448–450, figs. 1–2. [Switzerland.] (Rhaetian.)

Genus *Plegiocidaris* Pomel

S. bracteata (A. Agassiz) var. *albidens* H. L. Clark, 1925a:23–24. [Ceylon, west of Kaltusa and Macclesfield Bank, Indian Ocean.]

S. bracteata (A. Agassiz) var. *mauritiana* Mortensen, 1932b:161–162, pls. 7–8, pl. 9: figs. 10–11, pl. 12: figs. 3–5, 7. [Mauritius, Indian Ocean.]

S. cingulata Mortensen, 1932b:162–164, figs. 7–8, pl. 1: fig. 6, pl. 11: fig. 6, pl. 13: figs. 8–10. [Indian Ocean.]

S. effluens Mortensen, 1927b:285–292, fig. 19, pl. 59: fig. 3, pl. 62: figs. 1–2, pl. 65: figs. 1–4, pl. 75: figs. 1–2, pl. 80: figs. 1–6. [Malaysia.]

LOWER CRETACEOUS

P. biassalensis Weber, 1934:11, 12, 78, pl. 2: figs. 1a–k. [Crimea, U.S.S.R.] (Barremian.)

P. lamberti Weber, 1934:13, 79, pl. 12: figs. 1a–c. [Crimea, U.S.S.R.] (Barremian-Hauterivian.)

P. lemoinei Lambert in Démoly, 1928:142, pl. 1: figs. 9–13. [France.] (Hauterivian.)

P.? orientalis El-Din Mahmoud, 1955:159, pl. 18: figs. 4, 7. [Egypt.] (Middle Albian.)

JURASSIC

P. huguenini Lambert, 1931c:60–61. [France.]

UPPER JURASSIC

P. helviorum Lambert, 1932:262–263. [France.] (Tithonian? or Argovian.)

P. kuchkaensis Weber, 1934:9, 78, pl. 1: figs. 4a–d. [Crimea, U.S.S.R.] (Rauracian.)

P. vogdti Weber, 1934:11, 78, pl. 1: figs. 7a–c. [Crimea, U.S.S.R.] (Rauracian.)

MIDDLE JURASSIC

P. ardesica Thiéry in Thiéry, Lambert and Collignon, 1928:90–91, pl. 21: fig. 15. [France.] (Callovian.)

P. babeaui Cotteau var. *granulosa* Mercier, 1932: 149, pl. 2: fig. 5. [France.] (Upper Bathonian.)
P. bifrons Lambert, 1936c:12, pl. 1: figs. 10–11. [Madagascar, off East Africa.] (Bathonian.)
P. caeuliculus Lambert, 1936c:11–12, pl. 1: figs. 1–3. [Madagascar, off East Africa.] (Bathonian.)
P. jacobi Basse and Lambert in Lambert, 1936c:11, pl. 4: figs. 1–3, 8. [Madagascar, off East Africa.] (Callovian.)
P. mercieri Lambert, 1933b:30–32, pl. 3: figs. 6–7. [North Africa.] (Lower Bathonian.)
P. pseudohorrida Lambert, 1936c:12, pl. 1: fig. 9. [Madagascar, off East Africa.] (Bathonian.)
P. welschi Lambert, 1935a:523–524, pl. 26: fig. 4. [France.] (Lower Bajocian.)

LOWER JURASSIC

P. marizensis Lambert, 1937:40, pl. 1: fig. 3. [Morocco. It was described without a specific name in 1933b, *Notes and Memoires,* 27:29, pl. 1: fig. 5.] (Domerian to late Pliensbachian.)
P. morierei Cotteau var. *nodosa* Mercier, 1937c:21–22, pl. 1: figs. 12–13. [France.] (Toarcian.)
P. telrhemtensis Lambert, 1937:41, pl. 1: fig. 4. [Morocco.] (Toarcian.)
P. termieri Lambert, 1937:39–40, pl. 1: figs. 1–2. [Morocco.] (Pliensbachian.)
P. tingitana Lambert, 1933b:29–30, pl. 1: figs. 11–12. [North Africa.] (Aalenian.)

UPPER TRIASSIC

P. raibliana (Bather) var. *rhodiensis* Venzo, 1934b: 159–160, pl. 13: figs. 14–15. [Rhodes Island, Southeastern Aegean Sea.] (Raiblian. Karnian.)

Genus *Stylocidaris* Mortensen

RECENT

S. amboinae Mortensen, 1928:71. [Amboina, off Mindanao, Indonesia.]
S. annulosa Mortensen, 1927b:296–299, fig. 21, pl. 63: fig. 1, pl. 64: figs. 1–3, pl. 65: fig. 8, pl. 75: fig. 3, pl. 80: figs. 7–11. [China Sea.]
S.(?) fusispina Mortensen, 1928:72–73. [Sagami Sea and Kagoshima Gulf, Japan.]
S. laevispina Mortensen, 1939b:15–17, figs. 7–8, pl. 2: fig. 5, pl. 4: figs. 1, 5, pl. 5: fig. 6, pl. 6: figs. 7, 10, 11. [Indian Ocean.]
S.(?)longicollis Mortensen, 1928: 72. [Amirante Islands, east of Tanganyika, Indian Ocean.]
S. maculosa Mortensen, 1928:72. [Sagami Sea, Japan.]
S. reini (Döderlein) var. *cladothrix* Mortensen, 1927b:293–295, fig. 20, pl. 65: figs. 5–7, pl. 66: fig. 1, pl. 67: fig. 1, pl. 75: fig. 4. [Malaysia.]
S. reini (Döderlein) var. *rubida* Mortensen, 1927b: 295–296, pl. 63: figs. 2–3, pl. 74: figs. 6–7. [Malaysia.]
S. rufa Mortensen, 1928:71–72. [Hawaii.]

TERTIARY

S. (?) chapmani Philip, 1963d:198–201, figs. 1b–c, 2a, pl. 22: figs. 6–8. [Southeastern Australia.] (Pre-Oligocene, pre-Janjukian.)

Genus *Menocidaris* Philip

MIOCENE

Menocidaris Philip, 1964:468–469. Type-species: *M. compta* Philip, 1964: 469–471, fig. 6, pl. 59: fig. 5, pl. 61: fig. 1, pl. 67: fig. 1. [Southeastern Australia.]

Family PSYCHOCIDARIDAE Ikeda

Psychocidaridae Ikeda, 1936b:486, pls. 33–34. Type-genus: *Psychocidaris* Ikeda. [Malaysia(?).]

Genus *Psychocidaris* Ikeda

RECENT

Psychocidaris Ikeda, 1935b:386. Type-species: *P. ohshimai* Ikeda, 1935b: 386–388, fig. 1. [Malaysia, Bonin Islands, Southeastern Asia.]

Genus *Caenocidaris* Thiéry

MIDDLE JURASSIC

Caenocidaris Thiéry, 1928:180. Type-species: *Cidaris cucumifera* Agassiz. [Europe.] (Bajocian.)

Genus *Merocidaris* Thiéry

MIDDLE JURASSIC

Merocidaris Thiéry, 1928:180. Type-species: *Cidaris honorinae* Cotteau. [Europe.] (Kimmeridgian-Bajocian.)

Genus *Tylocidaris* Pomel

PALEOCENE

T. macneili Cooke, 1959:12–13, pl. 1: figs. 3–5. [Alabama, U.S.A.] (Clayton Fm.)
T. pomifer (Boll) *herupensis* Wind, 1954:484, pl. 13: figs. 55–58. [Scandinavia.] (Upper Danian.)
T. pomifer (Boll) var. *masoviensis* Kongiel, 1958:5, 19, figs. 1–7, pl. 1: figs. 4–15. [Denmark.] (Danian.)
T. ravni Brotzen, 1959:47–49, figs. 14c, 14d, pl. 2: figs. 2–16. [Sweden.] (Middle Danian.)
T. rosenkrantzi Brotzen, 1959:45, figs. 15a, 15b, pl. 2: figs. 17–36. [Sweden.] (Middle Danian.)
T.? salina Cooke, 1959:12, pl. 1: figs. 12–14. [Alabama, U.S.A.] (Salt Mt. Ls.)
T. windi Brotzen, 1959:47, figs. 16a, 16b, pl. 1: figs. 20–23. [Sweden.] (Lower Danian.)

Family DIPLOCIDARIDAE Gregory

Genus *Diplocidaris* Desor

LOWER CRETACEOUS

D. bicarinata Weber, 1934:28, 81, pl. 4: figs. 7a–k. [Crimea, U.S.S.R.] (Hauterivian.)

MIDDLE JURASSIC

D. besairiei Lambert, 1936b:116–117, pl. 6: figs. 1–10. [Madagascar, off East Africa.] (Bajocian.)
D. dubari Lambert, 1937:44–45, pl. 4: figs. 6–7. [Morocco.] (Bajocian to Bathonian.)
D. mauritanicus Jeannet, 1936b:607–611, figs. 1–2, pl. 37: figs. 1–3. [Morocco, North Africa.] (Bathonian to Bajocian.)
D. romani Mercier in Roché, 1939:304, fig. 10. [France.] (Bajocian.)

LOWER JURASSIC

D. menchikoffi Lambert, 1937:43–44, pl. 1: figs. 5–7. [Morocco.] (Upper Domerian.)

Order Uncertain

Family Uncertain

Genus *Lanternarius* Regnéll

MIDDLE SILURIAN

Lanternarius Regnéll, 1956:171–172. Type-species: *L. latens* Regnéll, 1956:173–175, fig. 4, pl. 2: figs. 4–6. [Sweden.] (Wenlockian.)

Subclass EUECHINOIDEA Bronn

Superorder DIADEMATACEA Duncan

Order ECHINOTHURIOIDA Claus

Family ECHINOTHURIIDAE Thomson

Subfamily ECHINOTHURIINAE Thomson

Genus *Araeosoma* Mortensen

RECENT

A. alternatum Mortensen, 1934a:164. [Off the Somali Coast, Indian Ocean.]
A. coriaceum Agassiz var. *indicum* Koehler, 1927: 37–39, pl. 7: fig. 5, pl. 8: fig. 3, pl. 24: fig. 3. [Indian Ocean.]
A. owstoni Mortensen var. *nudum* Mortensen, 1934a:164. [Malaysia, Philippines, off Cape Vazella, Annam.]
A. parviungulatum Mortensen, 1934a:164. [Celebes Island, Buton Strait, Malaysia.]
A. paucispinum H. L. Clark, 1925c:4–5, pl. 2. [Off Natal Coast, South Africa.]
A. splendens Mortensen, 1934a:164. [Off Kei Islands, Malaysia.]
A. tessellatum (A. Agassiz) var. *carinatum* Mortensen, 1934a:163. [Off South Luzon, China Sea.]

PALEOCENE

(?) *A. mortenseni* Ravn, 1928:37–38, pl. 4: figs. 42–45. [Denmark.] (Danian.)

UPPER CRETACEOUS

(?) *A. brunnichi* Ravn, 1928:36–37, pl. 4: figs. 36–38. [Denmark.] (Upper Senonian.)

Genus *Asthenosoma* Grube

RECENT

A. dilatatum Mortensen, 1934a:165. [Off Jolo Island, Malaysia.]
A. intermedium H. L. Clark, 1938:378–380, pl. 26: figs. 2–3. [Great Barrier Reef, Australia.]
A. periculosum Endean, 1964:95–100, fig. 1, pl. 12: figs. 1–2. [Queensland, Australia.]
A. varium Grube *album* Mortensen, 1934a:165. [Off Tual, Kei Islands, Malaysia.]

UPPER CRETACEOUS

A.(?) *striatissimum* Ravn, 1928:39, pl. 4: figs. 40–41. [Denmark.] (Upper Senonian.)

Genus *Calveriosoma* Mortensen

RECENT

Calveriosoma Mortensen, 1934a:163. Type-species: *Calveria hystrix* Thomson. [North Atlantic-North Pacific.]

Genus *Hapalosoma* Mortensen

RECENT

H. gemmiferum Mortensen, 1934a:165. [Japanese Seas.]

Genus *Sperosoma* Koehler

RECENT

S. antillense Mortensen, 1934a:163. [Off Barbados (Island), Caribbean Sea.]
S. armatum Koehler, 1927:43–46, pl. 8: figs. 1, 6, pl. 25: fig. 3. [Indian Ocean.]
S. crassispinum Mortensen, 1934a:163. [Molucca Passage, Malaysia.]
S. tristichum Mortensen, 1934a:163. [Celebes Sea, Malaysia.]

Genus *Echinosoma* Pomel

RECENT

In the *Treatise* Fell (Durham et al., 1966:U346–U347) considers *Echinosoma* an objective synonym of *Tromikosoma.*
E. australe Koehler, 1926:38–43, pl. 107: figs. 1–2, pl. 108: figs. 1–2, pl. 109: figs. 9–10, pl. 121: fig. 2. [South Pacific.]

Subfamily PHORMOSOMATINAE Mortensen

Genus *Phormosoma* Thomson

RECENT

P. placenta Thomson var. *africana* Mortensen, 1934a:162. [Off South Africa.]

Genus *Hemiphormosoma* Mortensen

RECENT

Hemiphormosoma Mortensen, 1934a:162. Type-species: *H. paucispinum* Mortensen, 1934a:162. [Sulu Sea, Malaysia.]

Genus *Paraphormosoma* Mortensen

RECENT

Paraphormosoma Mortensen, 1934a:163. Type-species: *Phormosoma alternans* de Meijere. [Indonesia.]

Order DIADEMATOIDA Duncan

Family DIADEMATIDAE Gray

Genus *Diadema* Gray

RECENT

D. clarki Ikeda, 1939b:165–166, pl. 11: figs. 1–4. [Japan.]
D. palmeri Baker, 1967:240–243, fig. 1, pls. 1–2. [Northern New Zealand.]

LOWER MIOCENE

D. vetus Lambert, 1931c:84, pl. 3: fig. 26. [Algiers, North Africa.] (Aquitanian.)

UPPER EOCENE

D.? principeana Weisbord, 1934:41–43, pl. 3: figs. 11–13. [Cuba.]

Genus *Astropyga* Gray

RECENT

A. magnifica A. H. Clark, 1934:52–53. [Florida, U.S.A.]
A. nuptialis Tommasi, 1958:85–87, figs. 1–3. [San Pablo, Brazil.]

Genus *Centrostephanus* Peters

RECENT

C. asteriscus Agassiz and Clark var. *malayanus* Mortensen, 1939a:549–550; 1940b:313, pl. 37: figs. 1–2, pl. 76: figs. 5–9, 13, 19–21. [Kei Islands, Indonesia.]
C. besnardi Bernasconi, 1955:92. [Island of Trinidad, Brazil.]
C. nitidus Koehler, 1927:53–60, pl. 9: figs. 4–10, pl. 10: figs. 1, 3, 4, 8, 9, pl. 26: fig. 2. [Indian Ocean.]

LOWER MIOCENE

C. sacyi Lambert, 1928b:85–86, fig. 1. [France.] (Langhian-Burdigalian.)

Genus *Chaetodiadema* Mortensen

RECENT

C. africanum H. L. Clark, 1925c:2–3, pl. 1. [Off Natal Coast, South Africa.]
C. keiense Mortensen, 1939a:549; 1940b:226–229, pl. 32: figs. 3–8, pl. 72: figs. 1–5. [Kei Islands, Indonesia.]
C. sundararaji Devanesen, 1930:249. [Probably Indian Ocean.]

Genus *Eodiadema* Duncan

LOWER JURASSIC

E. lacostei Lambert, 1933b:41–44, pl. 1: figs. 14–17. [North Africa.]
E. thorali Petitot, 1961[1959]:35–36, pl. 2: figs. 10–13. [Morocco.] (Domerian-late Pliensbachian.)

Genus *Eremopyga* Agassiz and Clark

RECENT

E. debilis Mortensen, 1940a:34–35; 1940b:213–215, pl. 26: figs. 3, 4, pl. 27: figs. 1–4, pl. 71: fig. 12. [Malaysia.]

Genus *Goniodiadema* Mortensen

RECENT

Goniodiadema Mortensen, 1939a:549; 1940b:237. Type-species: *G. mauritiense* Mortensen, 1939a: 549; 1940b:238–241, pl. 28: figs. 1–2, pl. 73; figs. 8, 17–20. [Mauritius, Indian Ocean.]

Genus *Kierechinus* Philip

LOWER EOCENE

Kierechinus Philip, 1963b:1104–1109, figs. 1–3. Type-species: *Pedinopsis melo* Kier. [British Somaliland, East Africa.] (Upper Auradu.)

Genus *Palaeodiadema* Pomel

PALEOCENE/UPPER CRETACEOUS

P.(?) multiforme Ravn, 1928:49–52, pl. 5: figs. 7–10. [Denmark.] (Danian to Upper Senonian.)

P. gauthieri Lambert, 1931c:70–71, pl. 3: fig. 14. [Algiers, North Africa.] (Turonian.)

Family MICROPYGIDAE Mortensen

Genus *Micropyga* A. Agassiz

RECENT

M. nigra H. L. Clark, 1925a:47–48, pl. 3: fig. 3, pl. 4: figs. 1–2. [New Britain, Bismarck Archipelago, South Pacific.]

Family ASPIDODIADEMATIDAE Duncan

Genus *Aspidodiadema* A. Agassiz

RECENT

A. africanum Mortensen, 1939a:548; 1940b:49–51, pl. 2: figs. 11–12, pl. 63: figs. 1–4. [Off East London, Union of South Africa.]

A. annulatum Koehler, 1927:61–63, pl. 11: figs. 1–6. [Invisible Bank, Indian Ocean?]

A. arcitum Mortensen, 1939a:547–548; 1940b:46–49, pl. 1: fig. 17, pl. 2: figs. 6–10, pl. 64: figs. 13–17. [Off the Hawaiian Islands.]

A. hawaiiense Mortensen, 1939a:548; 1940b:56–58, pl. 1: fig. 16, pl. 2: figs. 1–5, pl. 63: figs. 5–7. [Hawaiian Islands.]

A. meijerei Döderlein var. *keiense* Mortensen, 1939a:548; 1940b:55, pl. 65: figs. 10–12. [Kei Islands, Indonesia.]

Family Uncertain

Genus *Ancylocidaris* Miller

Upper Jurassic

Ancylocidaris Miller, 1929:335. Type-species: *A. spenceri* Miller, 1929:335–336, figs. 1–3. [Wyoming, U.S.A.] (Sundance Fm.)

Genus *Helodiadema* Mortensen

LOWER CRETACEOUS

Helodiadema Mortensen, 1939a:550; 1940b:339–340, fig. 174. Type-species: *Cottaldia rotula* W. B. Clark. [Locality unknown.] (Lower Cretaceous in North America.)

Order PEDINOIDA Mortensen

Family PEDINIDAE Pomel

Genus *Pedina* L. Agassiz

UPPER-MIDDLE EOCENE

P. eocenica Sánchez Roig, 1949:41–42, pl. 3: fig. 6. [Cuba.]

MIDDLE JURASSIC

P. madagascariensis Lambert, 1936c:19, pl. 4: figs. 23–24. [Madagascar, off East Africa.] (Callovian.)

Genus *Atlasaster* Lambert

In the *Treatise* Fell (Durham et al., 1966:U357) considers *Atlasaster* a subjective synonym of *Pedina*.

LOWER JURASSIC

Atlasaster Lambert, 1931b:19–22. Type-species: *A. termieri* Lambert, 1931b: 19–22, fig. 3, pl. 2: figs. 1–5. [North Africa.] (Lower Domerian.)

A. jeanneti Lambert, 1937:65–67, fig. 3, pl. 2: fig. 1, pl. 4: figs. 21–22. [Morocco.] (Sinemurian.)

Genus *Coenopedina* A. Agassiz

RECENT

C. annulata Mortensen, 1940a:38; 1940b:108–110, pl. 2: figs. 16–18, pl. 3: fig. 1, pl. 68: figs. 1–6, 17, 18. [Malaysia.]

C. capensis H. L. Clark, 1923:375, fig. 4, pl. 21: figs. 1–2. [South Africa. Clark refers to the genus as *Coenopedina* Pomel (nom. null.).]

C. depressa Koehler, 1927:74–76, pl. 12: figs. 7–9. [Indian Ocean. Koehler refers to the genus as *Coenopedina* Pomel (nom. null.).]

C. diomedeae Mortensen, 1939a:548–549; 1940b:110–112, fig. 61, pl. 2: figs. 21–23, pl. 68: figs. 10–14. [Gulf of Panama, off Cape Mala.]

C. superba H. L. Clark, 1925a:52–53, pl. 5: figs. 1–2. [Saya de Malha Banks, Indian Ocean. Clark refers to the genus as *Coenopedina* Pomel (nom. null.).]

Genus *Diademopsis* Desor

LOWER JURASSIC

D. behtensis Lambert, 1931b:14, pl. 1: figs. 16–17. [North Africa.] (Lotharingian.)

Genus *Hemipedina* Wright

CRETACEOUS

H. abreusense Sánchez Roig, 1949:36–37. [Cuba.]

UPPER JURASSIC

H. taurica Weber, 1934:55–56, 85–86, fig. 3, pl. 9: figs. 3a–b. [Crimea, U.S.S.R.] (Sequanian.)

Genus *Leiopedina* Cotteau

LOWER EOCENE

L. cienagensis Sánchez Roig, 1949:42–43, pl. 3: figs. 3–4. [Cuba. Although Sánchez Roig cites the age as Middle Eocene, Brodermann (1949:324) says this species is Lower Eocene.]

Genus *Micropedina* Cotteau

UPPER CRETACEOUS

M. olisiponensis (Forbes) var. *gongilensis* Brighton, 1925:17–19, fig. 5. [Nigeria, West Africa.] (Lower Turonian/Cenomanian?)

Genus *Phalacropedina* Lambert

UPPER JURASSIC

Hemipedina (Phalacropedina) somaliensis Currie, 1925:61–62, figs. 10, 10a–d, pl. 9: figs. 5a–b. [Somaliland, East Africa.] (Oxfordian-Corallian.)

Genus *Pseudorthopsis* Sánchez Roig

UPPER CRETACEOUS

Pseudorthopsis Lambert in Sánchez Roig, 1949:9, 37. [Cuba. Although Sánchez Roig says this species is Eocene, Brodermann (1949:312) cites the age as Upper Cretaceous.] Type-species: *Echinopedina cubensis* Cotteau.

EOCENE

P. rojasi Sánchez Roig, 1953c:137–138, pl. 1: fig. 5. [Cuba].

Genus *Pseudopedina* Cotteau

LOWER JURASSIC

P. atlantis Lambert, 1931b:15, pl. 1: fig. 13. [North Africa.] (Domerian.)

Genus *Stenechinus* Arnold and H. L. Clark

EOCENE

Stenechinus Arnold and H. L. Clark, 1927:13. Type-species: *S. regularis* Arnold and H. L. Clark, 1927:15–17, pl. 1: figs. 7–9. [Jamaica.]

S. perplexus Arnold and H. L. Clark, 1927:14–15, pl. 1: figs. 4–6. [Jamaica.]

Family Uncertain

Genus *Farquharsonia* Currie

MIDDLE JURASSIC

Farquharsonia Currie, 1927:416. Type-species: *F. somaliensis* Currie, 1927:416–420, figs. 3a–d. [Somaliland, East Africa.] (Callovian.)

Order PYGASTEROIDA Durham and Melville

Family PYGASTERIDAE Lambert

Genus *Pygaster* J. L. R. Agassiz

LOWER CRETACEOUS

P. gerthi Weaver, 1931:171–172, pl. 12: figs. 25–28. [Argentina.] (Aptian or Upper Barremian.)

MIDDLE JURASSIC

P. daguini Lambert, 1931b:17–19, pl. 2: fig. 6. [North Africa.] (Lower Domerian.)
P. joleaudi Besairie and Lambert in Lambert, 1933a:10, pl. 2: fig. 7. [Madagascar, off East Africa.] (Callovian.)
P. langanoides Agassiz *ranvillensis* Mercier, 1932: 213. [France.] (Upper Bathonian.)
P. lourdinensis Laube in Lambert, 1926b:121–122, pl. 10: figs. 4a–b. [Switzerland.] (Lower Bathonian.)
P. microstoma Lambert, 1933b:54–55, pl. 3: fig. 12. [North Africa.] (Toarcian.)

Genus *Plesiechinus* Pomel

LOWER JURASSIC

P. hawkinsi Jesionek-Szymańska, 1970:416–417, fig. 1A, pl. 1, pl. 2: figs. 1–2. [Nevada, U.S.A.] (Sunrise Fm., Sinemurian.)

Genus *Serpianotiaris* Jeannet

MIDDLE TRIASSIC

Miocidaris (Serpianotiaris) Jeannet, 1933a:1. Type-species: *M. (S.) hescheleri* Jeannet, 1933a:1–7, figs. 1–2, pl. 30: figs. 1–13. [Switzerland. Fell (Durham et al., 1966:U366a) placed this genus in "Order Uncertain" and "Family Uncertain." Kier (in ms.) considers it a miocidarid.] (Ladinian.)

Superorder ECHINACEA Claus

Order SALENIOIDA Delage and Hérouard

Family ACROSALENIIDAE Gregory

Genus *Acrosalenia* L. Agassiz

MIDDLE JURASSIC

A. basseae Lambert, 1936c:17–18, pl. 4: figs. 4–6. [Madagascar, off East Africa.] (Callovian.)
A. gananensis Stefanini, 1932:97–99, pl. 4: figs. 3a–f. [Somaliland, East Africa.] (Inferior Oolite.)
A. mathildae Lambert, 1935a:526–527, pl. 26: figs. 5–8. [France.] (Callovian.)
A. microstoma Besairie, 1936:128, pl. 8: figs. 13–14. [Madagascar, off East Africa.] (Upper Bathonian.)
A. smelliei Currie, 1925:53–54, figs. 4a–b, pl. 8: figs. 5a–b. [Somaliland, East Africa.] (Bathonian.)
A. ternieri Lambert, 1931b:15–16, pl. 1: fig. 11. [North Africa.] (Bajocian, Inferior Oolite.)
A. wylliei Currie, 1925:52–53, figs. 3a–b, pl. 8: figs. 4a–c. [Somaliland, East Africa.] (Bathonian.)

LOWER JURASSIC

A. somaliensis Currie, 1925:50–52, figs. 2a–c, pl. 8: figs. 2a–c, 3. [Somaliland, East Africa.]
A. zararensis Lambert, 1937:56–57, pl. 1: figs. 12–13. [Morocco.] (Pliensbachian.)

Genus *Eurysalenia* Kier

UPPER CRETACEOUS

Eurysalenia Kier, 1966a:A63. Type-species: *E. minima* Kier, 1966a:A63–65, fig. 17. [Wyoming, U.S.A.] (Upper Campanian or lower Maestrichtian.)

Genus *Heterosalenia* Cotteau

UPPER JURASSIC

H. suatensis Weber, 1934:47–48, 83–84, pl. 7: figs. 8a–c. [Crimea, U.S.S.R.] (Sequanian.)

MIDDLE JURASSIC

H. alloiteaui Zoeke, 1952:249–252, figs. 1–2, pl. 11b: figs. 1–3. [North Africa.] (Bathonian.)

Genus *Metacrosalenia* Currie

This genus is considered in the *Treatise,* Fell and Pawson (Durham et al., 1966:U325), a subjective synonym of *Heterosalenia* Cotteau.

MIDDLE JURASSIC

Acrosalenia (Metacrosalenia) Currie, 1925:55. Type-species: *Metacrosalenia pseudocidaroides* Currie, 1925:55–56, figs. 5a–b, pl. 8: figs. 6a–b. [Somali-

land, East Africa.] (Bathonian, in Currie (1927: 411).)

A. (M.) quadrimiliaris Currie, 1927:414–415, figs. 2a–d. [Somaliland, East Africa.]

Genus *Polysalenia* Mortensen

Upper Cretaceous

Polysalenia Mortensen, 1932a:490. Type-species: *P. notabilis* Mortensen, 1932a:491–494, figs. 17–22, pl. 4: figs. 1–3. [Sweden.] (Upper Senonian.)

P. cottaldi Mortensen, 1932a:494–496, figs. 23–24, pl. 4: figs. 11–13. [Sweden.] (Upper Senonian.)

Genus *Recrosalenia* Currie

Middle Jurassic

Recrosalenia Currie, 1925:47–48. Type-species: *R. somaliensis* Currie, 1925:48–50, fig. 1, pl. 8: figs. 1a–e. [Somaliland, East Africa.] (Callovian or Bathonian.)

R. migiurtina Maccagno, 1947c:90–92, pl. 1: fig. 5. [Harar, Ethiopia.] (Callovian or Bathonian.)

Family SALENIIDAE L. Agassiz

Subfamily SALENIINAE L. Agassiz

Genus *Salenia* Gray

Recent

S. scrippsae Zullo, Kaar, Durham and Allison, 1964: 339–343, figs. 3A–B, 4C–D, 6D–G, pl. 56: figs. 1–3. [Chile.]

S. sculpta Koehler, 1927:71–73, pl. 11: figs. 10–13, pl. 12: figs. 1, 2, 10, pl. 25: fig. 5. [Indian Ocean.]

S. unicolor Mortensen, 1934a:166. [Sagami Sea, Japan.]

Middle Miocene

S. nipponica Morishita, 1965:64–66, figs. 1–4. [Japan.]

Lower Miocene

S. novemprovincialis Nisiyama, 1966:187–188, pl. 2: figs. 6–9. [Japan.] (Kakinoura Fm.)

Lower Oligocene

S. schencki Zullo, Kaar, Durham and Allison, 1964: 343–346, figs. 4B, 5, 6A–C, pl. 56: fig. 5. [Oregon, U.S.A.]

Eocene

S. persica Clegg, 1933:8–10, pl. 1: figs. 3a–d. [Persia, Iran.]

Paleocene

S. alta Hassan, 1969:18, pl. 1: figs. 9–10. [Kharga Oasis, Upper Egypt.] (Landanian.)

Cretaceous

S. pseudowhitneyi Ikins, 1940:65–66, pl. 4: figs. 5a–c. [Texas, U.S.A.]

S. scotti Ikins, 1940:66–67, pl. 5: figs. 1a–c. [Texas, U.S.A.]

S. whitneyi Cannon in Ikins, 1940:68–69, pl. 5: figs. 3a–c. [Texas, U.S.A.]

Upper Cretaceous

S. alcaldei Sánchez Roig, 1949:44, pl. 2: figs. 14–17. [Cuba.] (Maestrichtian.)

S. hagenowi Nestler, 1965:989–991, figs. 8a–d, pl. 5: figs. 1a–c. [Rügen Island, Baltic Sea.] (Lower Maestrichtian.)

S. hawkinsi Checchia-Rispoli, 1948:169–172, figs. 1–2, pl. 1: figs. 1–4a. [North Africa.] (Cenomanian.)

S. hondoensis Cooke, 1953:6, pl. 1: figs. 3–4. [Texas, U.S.A.] (Campanian.)

S. intermedia Hassan, 1969:16–17, pl. 1: figs. 6–8. [Kharga Oasis, Upper Egypt.] (Upper Maestrichtian.)

S. lamberti Checchia-Rispoli, 1932a:6–11, fig. 3, pl. 2: figs. 1–5a. [North Africa.] (Maestrichtian.)

S. lobosa Nestler, 1965:991–993, figs. 9a–c, pl. 5: figs. 2a–c. [Rügen Island, Baltic Sea.] (Lower Maestrichtian.)

S. mathuri Chiplonker, 1937:61–62, pl. 6: figs. 3a–d. [India.] (Lower Cenomanian.)

S. somaliensis Hawkins, 1935a:48–49, figs. 1–2, pl. 6: figs. 9a–b. [British Somaliland, East Africa.] (Upper Senonian?)

S. trigonopyga Lambert, 1933a:13–14, pl. 1: figs. 25–27. [Madagascar, off East Africa.] (Upper Turonian.)

LOWER CRETACEOUS

S. cottreaui Lambert, 1931c:63–64, fig. 3, pl. 3: figs. 2–4. [Algiers, North Africa.] (Neocomian.)
S. dux Wright, 1967:17–19, fig. 2, pl. 1: figs. 1a–d. [Southwestern England.] (Upper Albian.)
S. kansasense Twenhofel, 1924:52, pl. 7: fig. 7. [Kansas, U.S.A.] (Comanche.)
S. leanderensis Ikins, 1940:64–65, pl. 4: figs. 4a–c. [Texas, U.S.A.] (Comanchean.)
S. phillipsae Whitney and Kellum, 1966:249–250, pl. 1: figs. 4–6. [Texas, U.S.A.] (Trinity Group. Aptian.)
S. similis White *lastroensis* Maury, 1936:268–269. [Brazil.] (Middle Albian.)
S. stenzeli Ikins, 1940:67–68, pl. 5: figs. 2a–c. [Texas, U.S.A.] (Comanchean.)

UPPER JURASSIC

S. taurica Weber, 1934:59–60, 86, fig. 5, pl. 9: figs. 6a–d. [Crimea, U.S.S.R.] (Sequanian.)

Genus *Salenocidaris* A. Agassiz

RECENT

S. brachygnatha Mortensen, 1934a:166. [Off Kermadec Islands, Southwest Central Pacific Ocean.]
S. hastigera (A. Agassiz) var. *acuminata* Mortensen, 1934a:166. [Malaysia.]
S. incrassata Mortensen, 1934a:166. [Gulf of Tomini, Celebes Island, Malaysia.]
S. miliaris (A. Agassiz) var. *indica* Mortensen, 1939b:23–24, pl. 6: fig. 9. [Maldive Islands, off southern India, Indian Ocean.]
S. profundi (Duncan) var. *occlusa* Mortensen, 1934a:165. [Off Tristan da Cunha Island, South Atlantic Ocean.]

Genus *Salenidia* Pomel

PALEOCENE

S. danica Ravn, 1928:45–47, pl. 5: figs. 5a–c. [Denmark.] (Danian.)
S. karakachi Weber, 1934:61–62, 86, fig. 7, pl. 9: figs. 8a–g. [Crimea, U.S.S.R.] (Danian.)
S. selandica Ravn, 1928:48–49, pl. 5: figs. 6a–c. [Denmark.] (Danian.)

UPPER CRETACEOUS

S. chabaudi Castex, 1947:30, pl. 1: figs. 16–19. [France.] (Maestrichtian.)
S. scabra Nestler, 1965:987–989, figs. 7a–f, pl. 4: figs. 4–7. [Rügen Island, Baltic Sea.] (Lower Maestrichtian.)

Genus *Valsalenia* Mortensen

PALEOCENE

Valsalenia Mortensen, 1934a:165. Type-species: *Salenia garumnensis* Valette. [France.] (Lower Danian.)

UPPER CRETACEOUS

V. marquassuzaai Castex, 1947:28–29, pl. 1: figs. 7–9. [France.] (Maestrichtian.)

Genus *Peltastes* L. Agassiz

In the *Treatise* Fell and Pawson (Durham et al., 1966:U379) consider *Peltastes* an objective synonym of *Hyposalenia* Desor.

PALEOCENE

P. ultimus Ravn, 1928:39–41, fig. 11, pl. 4: fig. 39. [Denmark.] (Danian.)

Genus *Goniophorus* L. Agassiz

UPPER CRETACEOUS

G. scotti Lambert in Scott, 1926:185–186. [Texas, U.S.A. Further described and illustrated in Lambert, 1927a:268; in Adkins, 1928:278, pl. 12: fig. 8; in Cooke, 1946:202, pl. 31: figs. 8–9.]
G. whitneyi Ikins, 1940:69–70, pl. 5: figs. 4a–c. [Texas, U.S.A.] (Comanchean.)

Order HEMICIDAROIDA Beurlen

Family HEMICIDARIDAE Wright

Genus *Hemicidaris* L. Agassiz

Upper Cretaceous

H. palmirensis Sánchez Roig, 1949:34–35, pl. 1: figs. 8–9. [Cuba.]

Lower Cretaceous

H. villadai Maldonado-Koerdell, 1953:27–28, pl. 1: figs. 22–24. [Mexico.] (Aptian.)

Upper Jurassic

H. crenularis (Lamarck) var. *alta* Kongiel, 1957: 13–14, 47, 62–63, pl. 2: figs. 5–6. [Pomerania, on the Baltic Sea.] (Upper Kimmeridgian.)
H. crenularis (Lamarck) var. *major* Lambert, 1933c: 177, pl. 7: fig. 12. [France.] (Rauracian.)
H. pilleti Lambert, 1927c:365. [France.] (Tithonian.)
H. sundancensis Miller, 1928:143–146, figs. 1–4. [Wyoming, U.S.A.] (Sundance Fm.)
H. tithonica Lambert, 1927c:364, fig. 1. [France.] (Tithonian.)

Middle Jurassic

H. bihinensis Currie, 1925:59–60, fig. 8, pl. 9: figs. 3a–b. [Somaliland, East Africa.] (Bathonian.)
H. castillionensis Lambert, 1933c:177, pl. 7: figs. 3–4. [France.] (Upper Bathonian.)
H. jaisalmerensis Sahni and Bhatnagar in Sahni, 1955:187. [Rajasthan, Northwest Indian Union.] (Callovian.)
H. luciensis d'Orbigny var. *hourcqi* Lambert, 1936c:17. [Madagascar, off East Africa.] (Bathonian.)
H. luciensis Cotteau *oolithicus* Mercier, 1932: 120–121, 166–167, fig. 19, pl. 4: figs. 6a–b. [France.] (Middle Bathonian.)

Lower Jurassic

H. termieri Lambert, 1931b:13–14, pl. 1: figs. 7–12. [North Africa.] (Lower Domerian.)

Genus *Asterocidaris* Cotteau

Middle Jurassic

A. besairiei Lambert, 1936c:16, pl. 1: figs. 22–24. [Madagascar, off East Africa.] (Callovian.)
A. ragoti Lambert, 1936c:15, pl. 4: figs. 11–13. [Madagascar, off East Africa.] (Callovian.)

Genus *Gymnocidaris* L. Agassiz

Middle Jurassic

G. gortanii Maccagno, 1947c:95–96, pl. 2: figs. 15, 15a–b. [Harar, Ethiopia.] (Bathonian/Callovian.)
G. lamberti Mercier, 1932:162–163, pl. 3: figs. 8a–c. [France.] (Upper Bathonian.)
G. madagascariensis Lambert, 1936b:118–119, pl. 6: figs. 13–16. [Madagascar, off East Africa.] (Bajocian.)
G. pustulosa Agassiz *nuda* Mercier, 1932:161, pl. 3: fig. 7. [France.] (Upper Bathonian.)

Genus *Hessotiara* Pomel

Middle Jurassic

H. zuberi Jeannet, 1953:176–177, pl. 1: figs. 1–5. [Switzerland.] (Lower Callovian.)

Genus *Heterodiadema* Cotteau

Upper Cretaceous

H. libyca Desor *asiatica* Stefanini, 1928:164–166, pl. 19: figs. 4, 5, 6a–c, 7a–d, 8a–b. [Karakorum, Mongolia.] (Cenomanian.)
H. libycum Desor var. *nigeriense* Lambert, 1938b: 87–89, pl. 6: figs. 9, 9a–b. [Niger territory, French West Africa.] (Upper Cenomanian.)

Genus *Pseudocidaris* Étallon

Lower Cretaceous

P. simulans Nisiyama, 1950b:29–30, pl. 4: figs. 1–2. [Japan.] (Aptian/Albian.)

Jurassic

P. defilippii Stefanini, 1928:161–164, pl. 19: figs. 2a–e. [Karakorum, Mongolia.]
P. gortanii Maccagno, 1947b:121–122, fig. 1c, pl. 1: fig. 8. [Somaliland, East Africa.]
P. migliorinii Maccagno, 1947b:118–120, fig. 2, pl. 1: figs. 7–7a. [Somaliland, East Africa.]

Upper Jurassic

P. tetragranulatus Currie, 1925:57–58, figs. 6a–b, pl. 8: figs. 7a–c. [Somaliland, East Africa.] (Kimmeridgian.)
P. vogdti Weber, 1934:43–44, 83, pl. 7: figs. 3a–h. [Crimea, U.S.S.R.] (Tithonian.)

Middle Jurassic

P. checchiai Maccagno, 1947c:92–95, pl. 1: figs. 6, 6a–b, pl. 2: figs. 13–13a. [Harar, Ethiopia.] (Bathonian/Callovian.)
P. collignoni Lambert, 1936c:13–14, pl. 1: figs. 12–16. [Madagascar, off East Africa.] (Upper Bathonian.)
P. levis Lambert, 1936c:13, pl. 4: fig. 7. [Madagascar, off East Africa.] (Callovian.)
P. truncata Lambert, 1936c:14, pl. 1: figs. 18–21. [Madagascar, off East Africa.] (Upper Bathonian.)

Lower Jurassic

P. dubari Lambert, 1937:49, fig. 1, pl. 1: fig. 9. [Morocco.] (Lower Liassic.)
P. leckwycki Lambert, 1937:50–51, pl. 4: figs. 8–9. [Morocco.] (Tithonian.)

Genus *Spherotiaris* Lambert and Thiéry

Upper Jurassic

S. vivaldii Besairie, 1930:197–198, pl. 11: figs. 4–7. [Madagascar, off East Africa.] (Upper Callovian/lower Lusitanian.)

Middle Jurassic

S. meandrina Agassiz var. *nervosa* Lambert, 1937: 52–53, pl. 4: fig. 11. [Morocco.] (Bajocian.)
S. meandrina Agassiz var. *termieri* Lambert, 1937: 51–52, pl. 4: fig. 10. [Morocco.] (Upper Bajocian.)

Lower Jurassic

S. gignouxi Mercier, 1937c:24–25, pl. 1: figs. 17–18. [France.] (Domerian.)
S. precincta Lambert, 1933b:36, pl. 3: fig. 9. [North Africa.] (Domerian.)

Family PSEUDODIADEMATIDAE Pomel

Genus *Pseudodiadema* Desor

Lower Cretaceous

P. elevatus Whitney and Kellum, 1966:254–256, pl. 2: figs. 7–9. [Texas, U.S.A.] (Trinity Group. Aptian.)
P. grangeri Maury, 1936:270–271, pl. 2: figs. 1–2. [Brazil.] (Middle Albian.)
P. whitneyi Ikins, 1940:72–73, pl. 6: figs. 1a–c. [Texas, U.S.A. Cooke (1946:206) placed this species in *Loriolia*.] (Comanchean.)

Upper Jurassic

P. kselensis Devriès, 1956b:284–287, pls. 1–2. [Algiers, North Africa.] (Lusitanian.)

Lower Jurassic

P. amellagense Lambert, 1937:59–60, pl. 4: figs. 19–20. [Morocco.] (Upper Domerian to late Pliensbachian.)
P. renzi Jeannet, 1928c:221; 1928d:461–462, pl. 36: figs. 12–14, 16–18. [Switzerland.] (Lower Toarcian.)

Upper Triassic

P. silbinense Stefanini, 1923:51–55, pl. 5: figs. 1a–g, 2a–c. [Italy.] (Rhaetian.)

Genus *Acrocidaris* L. Agassiz

Lower Cretaceous

A. arginensis Weber, 1934:54, 85, pl. 8: figs. 6a–b. [Crimea, U.S.S.R.] (Hauterivian.)

Upper Jurassic

A. borissiaki Weber, 1934:51–53, 84–85, pl. 8: figs. 3a–h. [Crimea, U.S.S.R.] (Sequanian.)
A. cazioti Lambert, 1926a:72–74, fig. 1. [France.] (Tithonian.)

Middle Jurassic

A. crenulata Mercier, 1935:29. [France.] (Bajocian.)

Genus *Diplopodia* M'Coy

Upper Cretaceous

D. cretacica Sánchez Roig, 1949:35, pl. 1: figs. 10–11. [Cuba.]
D. gigantea Checchia-Rispoli, 1945 [1943]:88–89, pl. 1: figs. 5–6. [Somaliland, East Africa.] (Cenomanian.)
D. gileadensis Blanckenhorn, 1925 [1924]:86, pl. 7: figs. 3a–b. [Palestine, Israel.] (Upper Cenomanian.)
D. inexspectata Checchia-Rispoli, 1943b:317–318, fig. 1. [Somaliland, East Africa.] (Cenomanian.)

Lower Cretaceous

D. balkhanensis Vialov, 1930:876–879, 900, pl. 1: figs. 1a–b, 2. [Asiatic Russia.] (Upper Hauterivian/lower Barremian.)
D. balkhanensis Vialov var. *aberans* Vialov, 1930: 880–881, 900, pl. 1: figs. 3a–b, 4. [Asiatic Russia.] (Upper Hauterivian/lower Barremian.)
D. elegans Corroy, 1925:315–316, pl. 4: figs. 22–24. [France.] (Hauterivian.)
D. gentili Lambert, 1931c:27, pl. 2, fig. 1. [North Africa.] (Barremian.)
D. kultchitskyi Vialov, 1930:881–883, 900–901, pl. 1: figs. 6a–c. [Asiatic Russia.] (Upper Hauterivian.)
D. langei Vialov, 1930:888–889, 901, pl. 1: figs. 8a–c. [Asiatic Russia.] (Upper Hauterivian.)
D. renngarteni Vialov, 1930:883–885, 901, pl. 1: figs. 7a–b. [Asiatic Russia.] (Upper Hauterivian.)
D. vassilievskyi Vialov, 1930:885–888, 901–902, pl. 2: figs. 1a–c. [Asiatic Russia.] (Upper Hauterivian.)

Genus *Hypodiadema* Desor

Upper Jurassic

Hemicidaris (*Hypodiadema*) *gregoryi* Currie, 1925: 58–59, fig. 7, pl. 9: figs. 2a–d. [Somaliland, East Africa.] (Corallian/Kimmeridgian.)
H. (*H.*) *macfadyeni* Currie, 1935a:44–45, pl. 6: figs. 2a–d. [British Somaliland, East Africa.] (Bathonian/Argovian.)

Lower Jurassic

H. dubari Lambert, 1933b:39–40, fig. 1. [North Africa.] (Domerian.)

Genus *Loriolia* Neumayr

Upper Cretaceous

L. clarki Cooke, 1946:206, pl. 31: figs. 13–14. [Texas, U.S.A. For *Heterodiadema ornatum* Clark, 1915.] (Washita Group.)

Lower Cretaceous

L. rosana Cooke, 1946:205–206, pl. 31: figs. 15–17. [Texas, U.S.A.] (Trinity Group.)

Middle Jurassic

L. inaequalis Agassiz var. *bathonica* Mercier, 1932: 183–184, pl. 5: figs. 13a–b. [France.] (Upper Bathonian.)

Genus *Pedinopsis* Cotteau

Lower Eocene

P.(?) *melo* Kier, 1957b:845, figs. 1a–b, pl. 103: figs. 4–5. [British Somaliland, East Africa.] (Upper Auradu Series.)

Lower Cretaceous

P. engerrandi Ikins, 1940:62, pl. 4: figs. 2a–c. [Texas, U.S.A.] (Comanchean.)
P. texana Cooke, 1955:90–91, pl. 19: figs. 1–6. [Texas, U.S.A.] (Upper Albian.)

P. yarboroughi Ikins, 1940:62–63, pl. 4: figs. 3a–c. [Texas, U.S.A.] (Comanchean.)

Genus *Polydiadema* Lambert

Eocene

P.(?) joaquinensis Alex Clark in Grant and Hertlein, 1938b:17–18, pl. 15: figs. 8–9. [U.S.A.] (Sierra Blanca Stage.)

Lower Cretaceous

P. karakachi Weber, 1934:50–51, 84, pl. 8: figs. 2a–f. [Crimea, U.S.S.R.] (Hauterivian.)

Upper Cretaceous

Leptarbacia andreui Sánchez Roig, 1949:35–36, pl. 2: figs. 1–2. [Cuba. See Fell and Pawson in the *Treatise* (Durham et al., 1966:U389). *Leptarbacia* Clark and Twitchell, 1915, is considered a synonym of *Polydiadema* Lambert.]

Genus *Polypedina* Lambert

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U389) consider *Polypedina* a subjective synonym of *Polydiadema* Lambert.

Lower Jurassic

Polypedina Lambert, 1933b:46. Type-species: *P. tounatensis* Lambert, 1933b:46–47, fig. 2, pl. 1: figs. 6–7. [North Africa.] (Lower Domerian.)

Genus *Tetragramma* L. Agassiz

Upper Cretaceous

T. besairiei Lambert, 1933a:13, pl. 1: figs. 23–24. [Madagascar, off east coast of Africa.] (Upper Turonian.)

T. bosei Jones, 1938:130, pl. 12: figs. 6–7. [Mexico.] (Indidura Fm.)

T. tafermense Lambert, 1931c:94–95, pl. 3: fig. 33. [Tunis.] (Cenomanian.)

Lower Cretaceous

T. cornueli Corroy, 1925:405–406, pl. 4: figs. 19–21. [France.] (Upper Barremian.)

T. giganteum Lambert, 1935f:522–523, pl. 58: fig. 1. [Spain.] (Aptian.)

T. hourcqi Collignon, 1950:7–8, pl. 1: figs. 1–2b. [Madagascar, off East Africa.] (Albian.)

Upper Jurassic

T. pomeraniae Kongiel, 1957:20–22, 50–51, 65–67, pl. 4: figs. 1–3. [Pomerania, on Baltic Sea.] (Lower Kimmeridgian.)

Middle Jurassic

T. antsingyensis Lambert, 1936c:19, pl. 1: figs. 28–30. [Madagascar, off East Africa.] (Callovian.)

Genus *Trochotiara* Lambert

Upper Cretaceous

T. russoi Lambert, 1931c:27, pl. 1: figs. 20–21. [North Africa.] (Cenomanian.)

Order PHYMOSOMATOIDA Mortensen

Family PHYMOSOMATIDAE Pomel

Genus *Phymosoma* Haime

Eocene

P. peloria Arnold and H. L. Clark, 1927:18–20, pl. 2: figs. 1–3. [Jamaica.]

Upper Eocene

P. conceptionis Sánchez Roig, 1952c:3, pl. 1: figs. 1–2. [Cuba.]

P. dixie Cooke, 1941a:17, pl. 2: fig. 15, pl. 4: figs. 1–2, 9. [U.S.A.]

Middle Eocene

P. gigantea Sánchez Roig, 1953c:136, pl. 1: fig. 1. [Cuba.]

PALEOCENE

P. subconicum Ravn, 1928:59–60, pl. 6: fig. 5. [Denmark.] (Danian.)
P. trinitensis Cooke, 1961:10–11, pl. 2: figs. 1–3. [Trinidad, Caribbean Ocean.]

CRETACEOUS

P. bybeei Ikins, 1940:71–72, pl. 5: figs. 5a–c. [Texas, U.S.A.]

UPPER CRETACEOUS

P. mortenseni Checchia-Rispoli, 1932a:11–15, figs. 4–6, pl. 2: figs. 7–19. [North Africa.] (Maestrichtian.)
P. paronai Checchia-Rispoli, 1933b:11–14, figs. 5–7, pl. 2: figs. 4–7. [North Africa.] (Maestrichtian.)
P. raguini Lambert, 1931c:28–29, pl. 1: figs. 22–23. [North Africa.] (Cenomanian.)
P. riograndensis Maury, 1925:508–509, pl. 24: figs. 11–12. [Brazil.]
P. solignaci Lambert, 1931c:95, pl. 4: figs. 1–3. [North Africa.] (Santonian.)
P. tinocoi Marchesini Santos, 1960:18–20, fig. 4, pl. 5: figs. 1–3. [Brazil.] (Turonian.)
P. unicarinatum Lambert, 1933b:66, pl. 3: figs. 10–11. [North Africa.] (Santonian.)

UPPER JURASSIC

P. cadenati Castex, 1947:27–28, pl. 1: figs. 10–15. [France.] (Upper Sequanian.)

Genus *Cyphosoma* L. Agassiz

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U395) consider *Cyphosoma* a synonym of *Phymosoma* Haime.

UPPER CRETACEOUS

C. palaestinense Blanckenhorn, 1925 [1924]:87–88, pl. 7: figs. 4–6. [Palestine, Israel.] (Upper Turonian/lower Santonian.)
C. riograndensis Maury var. *parahybensis* Maury, 1930:112–115, pl. 5: figs. 3, 5. [Brazil.] (Maestrichtian.)

LOWER CRETACEOUS

C. sanctaeluciae Maury, 1936:266–267, pl. 4: figs. 4–5. [Brazil.] (Middle Albian.)

Genus *Dixieus* Cooke

Fell and Pawson (Durham et al., 1966:U396), in the *Treatise,* consider Dixieus a subjective synonym of *Phymosoma* Haime.

UPPER EOCENE

Dixieus Cooke, 1948:606–607. Type-species: *Phymosoma dixie* Cooke. [North America.]

Genus *Gauthieria* Lambert

PALEOCENE

G.(?) parva Kongiel, 1936a:2–3, 8. [Poland.] (Lower Siwak. Danian.)

UPPER CRETACEOUS

G. sadeki Lambert, 1931d:191, pl. 5: figs. 46–47. [Egypt.] (Cenomanian.)

Genus *Glyptocidaris* A. Agassiz

LOWER PLIOCENE

G. crenularis A. Agassiz *stenozona* Nisiyama, 1966: 194–195, pl. 2: figs. 10–11. [Japan.] (Kurotaki Fm.)

Subgenus *Glyptocidaris* (*Eoglyptocidaris*) Nisiyama

OLIGOCENE/EOCENE

Glyptocidaris (*Eoglyptocidaris*) Nisiyama, 1966: 195–196. Type-species: *G.* (*E.*) *arctina* Nisiyama, 1966:196–197, fig. 7, pl. 3: figs. 5–7. [Japan.] (Paronai Fm.)

Genus *Jacquiertia* Mercier

LOWER JURASSIC

Jacquiertia Mercier, 1937a:419–420. Type-species: *Hemipedina parvula* Tornquist. (Toarcian.)

Mortensen and Mercier (1939) determined that the specimen Mercier identified as *Hemipedina parvula* Tornquist and for which he erected his genus *Jacquiertia* does not really belong to this species. Tornquist's species has perforate tubercles, whereas Mercier's has imperforate tubercles. Therefore, they erected a new species *Jacquiertia minuta* Mortensen and Mercier, and considered it the type-species of *Jacquiertia*. In the *Treatise,* Fell and Pawson (Durham et al., 1966:U400) likewise consider *J. minuta* as the type-species of *Jacquiertia;* however, because Mercier in his original description of *Jacquiertia* designated *Hemipedina parvula* Tornquist as the type-species, it remains the type-species regardless of the identity of the particular specimens upon which Mercier based his generic description. If the type specimens of *Hemipedina parvula* Tornquist belong to *Eodiadema* as suggested by Mortensen (1940b:177), then *Jacquiertia* is a subjective synonym of *Eodiadema*. If the type specimens of *Jacquiertia minuta* Mortensen and Mercier is generically distinct, then a new genus must be erected for this species.

J. minuta Mortensen and Mercier, 1939:59–61, figs. 1–2. [France.] (Charmouthien.)

Genus *Narindechinus* Lambert

Middle Eocene

Narindechinus Lambert, 1933a:30–31. Type-species: *N. checchiai* Lambert, 1933a:31, fig. 3, pl. 1: figs. 29–30. [Madagascar, off East Africa.] (Lutetian.)

Genus *Polyplacidia* Poretskaya

Eocene

Polyplacidia Poretskaya, 1968a:287–289. Type-species: *P. armenica* Poretskaya, 1968a:290–293, figs. 1–6, pl. 1: figs. 1a–b, pl. 2: figs. 1a–c. [Armenia, U.S.S.R.]

Genus *Porosoma* Cotteau

Eocene

P. kahleri Collignon, 1930:544–546, pl. 31: figs. 1, 1a–b. [Austria.]

P. lamberti Checchia-Rispoli, 1950b:22–24, pl. 1: figs. 1–1b. [East Africa, Migiurtinia, Northeast Somalia.]

Middle Eocene

P. lamberti Checchia-Rispoli, 1950a [1945–1946]: 22–24, pl. 1: figs. 1, 1a–b. [Somaliland, East Africa.]

Upper Cretaceous

P. batalleri Lambert, 1933d:185–186, fig. 1, pl. 1: figs. 10–13. [Spain.] (Maestrichtian.)

P. reesidei Cooke, 1953:6–7, pl. 1: figs. 5–8. [Wyoming, U.S.A.] (Coniacian.)

Genus *Rachiosoma* Pomel

Paleocene

R. krimica Weber, 1934:64, 86–87, pl. 10: figs. 3a–c. [Crimea, U.S.S.R.] (Danian.)

R. pulaviense Kongiel, 1939:27–29, pl. 3: figs. 7–10. [Poland.] (Lower to middle Danian.)

Upper Cretaceous

R. cottreaui Lambert, 1936c:24, pl. 2: figs. 16–17. [Madagascar, off East Africa.] (Maestrichtian.)

R. hondoensis Cooke, 1953:8–9, pl. 3: figs. 4–5. [Texas, U.S.A.] (Upper Maestrichtian.)

R. stagnorum Lambert, 1931c:69, pl. 3: figs. 12–13. [Algiers, North Africa.] (Cenomanian.)

Subgenus *Rachiosoma* (*Rosadosoma*) Marchesini Santos

Cretaceous

R. (*Rosadosoma*) Marchesini Santos, 1960:13–14. [For type *Phymosoma riograndensis* Maury.]

Genus *Winkleria* Engel

Engel provisionally refers this genus to the Phymosomatidae.

Upper Cretaceous

Winkleria Engel, 1964b:207. Type-species: *W. maastrichtensis* Engel, 1964b:207–210, figs. 1–4, pl. 1: figs. 1–10. [Netherlands.] (Maestrichtian.)

Genus *Thylechinus* Pomel

Oligocene

T. sethuramae Vredenburg, 1922:414, pl. 30: fig. 3. [Burma.]

Upper Eocene

T. humei Lambert, 1931d:198, pl. 5: figs. 5–7. [Egypt.] (Priabonian?)

Lower Eocene

T. chardoni Lambert and Roch in Lambert, 1937: 83–85, pl. 3: figs. 1–5. [Morocco.]
T. dubari Lambert, 1937:85, pl. 4: figs. 24–25. [Morocco.]

Subgenus *Thylechinus* (*Egyptechinus*) Lambert

The subgenus *Egyptechinus* Lambert is considered by Fell and Pawson (Durham et al., 1966:U403) a synonym of *Thylechinus* (*Mistechinus*) de Loriol.

Middle Eocene

Thylechinus (*Egyptechinus*) Lambert, 1935e:41. Type-species: by monotypy *Egyptechinus cuvillieri* Lambert, 1935e:41, pl. 1: figs. 4–6. [Egypt.] (Upper Lutetian.)

Family STOMECHINIDAE Pomel

Genus *Stomechinus* Desor

Jurassic

S. daguini Lambert, 1933b:50–51, pl. 1: fig. 21, pl. 3: fig. 5. [North Africa.]

Upper Jurassic

S. pulchellus Frenguelli, 1944:1–11, pl. 1: figs. 1–3. [Argentina.] (Tithonian.)

Middle Jurassic

S. bajocensis Lambert and Jeannet, 1928b:170. [France.] (Bajocian.)
S. lemoinei Lambert, 1931d:180–181, pl. 5: figs. 39–40. [Egypt.] (Bathonian.)
S. magnicornicolus Cooke, 1947:473–475, figs. 1–6. [U.S.A.] (Bajocian.)
S. polyporus Agassiz *nanus* Mercier, 1932:198, pl. 6: fig. 6. [France.] (Upper Bathonian.)

Genus *Circopeltis* Pomel

Upper Cretaceous

S. senessei Lambert in Lambert and Valette, 1934: 50–51, pl. 6: figs. 11–12. [France.] (Coniacian.)

Genus *Diplechinus* Lambert

Lower Jurassic

Diplechinus Lambert, 1931b:15–16. Type-species: *D. hebbriensis* Lambert, 1931b:16–17, pl. 1: figs. 14–15. [North Africa, Morocco.] (Lower Domerian.)

Genus *Echinotiara* Pomel

Upper Cretaceous

E. perebaskinei Lambert in Lambert and Pérébaskine, 1929:472–474, pl. 38: figs. 1–5. [North Africa.] (Maestrichtian.)

Middle Jurassic

E. somaliensis Currie, 1927:420–422, figs. 4a-f. [Somaliland, East Africa.] (Bathonian.)

Lower Jurassic

E. arabica Melville, 1955:393–401, figs. 1–7, pl. 19: figs. 1a-5b. [Arabia.] (Lower Toarcian.)

Genus *Gomphechinus* Pomel

Upper Cretaceous

G. collignoni Lambert, 1933a:15, pl. 2: figs. 1–3. [Madagascar, off east coast of Africa.] (Maestrichtian.)

Genus *Jeannetia* Mercier

Lower Jurassic

Jeannetia Mercier, 1937a:421–422. Type-species: *J. mortenseni* Mercier, 1937a:422–424, fig. 2. [France.] (Hettangian.)

Genus *Parastomechinus* Philip

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U404) consider *Parastomechinus* a synonym of *Jeannetia* Mercier.

Middle Jurassic

Parastomechinus Philip, 1963c:1111–1112. Type-species: *P. brightoni* Philip, 1963c:1112–1115, figs. 1–3, 5. [Wyoming, U.S.A.] (Twin Creek Fm. Bajocian/Callovian.)

Genus *Noetlingaster* Vredenburg

Upper Cretaceous

N. globulus Devriès, 1967:173–174, pl. 1: figs. 7–9, pl. 2: figs. 10–13, pl. 4: figs. 6–11. [Turkey.]
N. hemisphaericus Devriès, 1967:174–175, pl. 1: figs. 3, 6, 9, pl. 2: figs. 14–16, pl. 4: figs. 12–14. [Turkey.]
N. lamberti Checchia-Rispoli, 1930b:20, figs. 12–14, pl. 1: fig. 2, pl. 3: fig. 1, pl. 4: fig. 1. [Africa.] (Maestrichtian.)
N. millosevichi Checchia-Rispoli, 1930b:14, figs. 6–11, pl. 2: figs. 3–4. [Africa.] (Maestrichtian.)
N. sanfilippoi Checchia-Rispoli, 1930b:6, figs. 1–5, pl. 1: fig. 1, pl. 3: fig. 2, pl. 4: fig. 2. [Africa.] (Maestrichtian.)

Genus *Phymotaxis* Lambert and Thiéry

Upper Oligocene/Upper Eocene

P. mansfieldi Cooke, 1941a:18, pl. 3: figs. 12–13, pl. 4: figs. 6–8. [U.S.A.]

Genus *Polycyphus* L. Agassiz and Desor

Jurassic

P. rimuensis Stefanini, 1928:169–172, pl. 19: figs. 3a–g. [Karakorum, Mongolia.]

Middle Jurassic

P. hourcqi Lambert, 1936c:20, pl. 1: figs. 31–32. [Madagascar, off East Africa.] (Bathonian.)

Genus *Psephechinus* Pomel

Jurassic

P. globosus Lambert, 1931c:18–19, pl. 1: figs.: 14–16. [North Africa.]

Middle Jurassic

P. mazetieri Mercier, 1932:201–202, fig. 13, pl. 7: fig. 2. [France.] (Upper Bathonian.)
P. newtoni Lambert, 1933a:10. [Madagascar, off East Africa.] (Callovian.)

Lower Jurassic

P. renzi Jeannet, 1928c:221; 1928d:462–463, pl. 36: figs. 10–11, 15. [Corfu Island, in Ionian Sea off northwest Greece.] (Lower Toarcian to upper Malm.)

Genus *Stomopneustes* L. Agassiz

Oligocene

S. pristinus Jackson, 1937:229–230, pl. 12: fig. 1. [Mexico.]

Upper Eocene

S. antiquus Nisiyama, 1966:199–201, pl. 2: figs. 14–17, pl. 3: figs. 1–4. [Japan.] (Lutetian.)

Genus *Tiarechinopsis* Lambert

Middle Jurassic

Tiarechinopsis Lambert, 1936b:119. Type-species: *T. besairiei* Lambert, 1936b:120, pl. 6: figs. 17–21. [Madagascar, off East Africa.] (Bajocian.)

Genus *Triadechinus* Arnold and H. L. Clark

Eocene

Triadechinus Arnold and H. L. Clark, 1927:20–21. Type-species: *T. multiporus* Arnold and H. L. Clark, 1927:21–22, pl. 1: figs. 10–11. [Jamaica, Caribbean Sea.]

Genus *Leiosoma* Cotteau

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U408) consider *Leiosoma* an objective synonym of *Trochalosoma.*

Eocene

L. chondra Arnold and H. L. Clark, 1927:17–18, pl. 2: figs. 4–6. [Jamaica, Caribbean Sea.]

Upper Eocene

L. guadalupense Sánchez Roig, 1949:48–49, pl. 2: figs. 3–4. [Cuba.] (Although Roig considers it to be Eocene, Brodermann (1949:324) says it is Upper Eocene.)

Family Uncertain

Genus *Boletechinus* Cooke

Upper Cretaceous

B. mcglameryae Cooke, 1955:93, fig. 4, pl. 28: figs. 11–16. [Alabama, U.S.A.] (Upper Maestrichtian.)

Order ARBACIOIDA Gregory

Family ARBACIIDAE Gray

Genus *Arbacia* Gray

Pliocene

A. rivuli Cooke, 1941a:10–11, pl. 1: figs. 4–6. [U.S.A.] (Waccamaw Fm.)

A. waccamaw Cooke, 1941a:10, pl. 1: figs. 1–3. [U.S.A.] (Waccamaw Fm.)

Upper Miocene

A. crenulata Kier, 1963:11–15, figs. 3–7, pl. 1: figs. 1–5. [Florida, U.S.A.] (Tamiami Fm.)

Genus *Arbia* Cooke

Upper Oligocene

Arbia Cooke, 1948:606. Type-species: *Coelopleurus aldrichi* W. B. Clark. [Alabama, U.S.A.]

Genus *Atopechinus* Thiéry

Middle Jurassic

Atopechinus Thiéry in Thiéry, Lambert and Collignon, 1928:100–101. Type-species: *A. cellensis* Thiéry in Thiéry, Lambert and Collignon, 1928: 100–101, pl. 31: fig. 16. [France.] (Bathonian.)

Genus *Baueria* Noetling

Paleocene

B. tessieri Roman and Debant, 1962a:245; 1962b: 591–593, fig. 1, pl. 22b. [Senegal, West Africa.] (Lower Danian.)

Genus *Codiopsis* L. Agassiz

Upper Cretaceous

C. doma Desmarets var. *conicus* Smiser, 1935b:34, pl. 2: fig. 10. [Belgium.] (Cenomanian.)

C. douvillei Vidal, 1921:9, pl. 2: fig. 5, pl. 4: fig. 9. [Spain.] (Santonian.)
C. fontei Vidal, 1921:10, pl. 1: figs. 20–22. [Spain.] (Maestrichtian.)
C. pierrensis Smiser, 1935b:35–36, pl. 3: figs. 2a–h. [Belgium.] (Maestrichtian.)
C. senessei Lambert in Lambert and Valette, 1934: 52–53, pl. 6: figs. 13–15. [France.] (Upper Turonian to Coniacian.)
C. stephensoni Cooke, 1953:8, pl. 1: figs. 9–11. [Texas, U.S.A.] (Upper Maestrichtian.)

Lower Cretaceous

C. sellardsi Ikins, 1940:60–61, pl. 4: figs. 1a–c. [Texas, U.S.A.] (Comanchean.)

Genus *Coelopleurus* L. Agassiz

Recent

C. granulatus Mortensen, 1934a:167. [Japan, Bay of Ambon.]
C. undulatus Mortensen, 1934a:166–167. [Sagami Sea, Japan.]
C. undulatus Mortensen var. *polymorphus* Mortensen, 1934a:167. [Korea Strait, Japan.]
C. undulatus Mortensen var. *ruber* Mortensen, 1934a:167. [Macclesfield Bank, Malaysia.]
C. vittatus Koehler, 1927:64–70, pl. 10: figs. 2, 5–7, 10, pl. 25: fig. 6, pl. 26: fig. 1. [Indian Ocean.]

Miocene

C. singularis Nisiyama, 1966:205–206, pl. 1: figs. 21–23. [Japan.] (Shirahama Fm.)

Lower Miocene

C. melitensis Zammit-Maempel, 1969:42–46, fig. 1, pl. 6. [Malta.]

Upper Eocene

C. carolinensis Cooke, 1941a:9, pl. 2: figs. 1–3. [U.S.A.]

Upper Cretaceous

C. castroi Maury, 1930:114–117, pl. 5: fig. 4. [Brazil.] (Campanian.)

Genus *Cotteaudia* Lambert and Thiéry

Lower Cretaceous

C. royoi Lambert, 1928a:149–153, pl. 3: figs. 1–5. [Spain.] (Aptian.)

Genus *Murravechinus* Philip

Miocene

Murravechinus Philip, 1965:183–186. Type-species: *Coelopleurus paucituberculatus* Gregory. [Southeast Australia.]

Genus *Glypticus* L. Agassiz

Upper Jurassic

G. buxtorfi Koechlin, 1947:83; 1948:334–336, figs. 1–2. [Switzerland.] (Upper Sequanian.)

Genus *Goniopygus* L. Agassiz

Cretaceous

G. ameri Lambert, 1931e:301, pl. 17: fig. 16. [West Indies, Cuba.]
G. sanchezi Lambert, 1931e:300–301, pl. 17: figs. 17–18. [Cuba, West Indies.]

Upper Cretaceous

G. coutini Lambert, 1931c:29, pl. 1: figs. 24–25. [North Africa.]
G. cubanus Sánchez Roig, 1952c:2–3, pl. 1: fig. 9. [Cuba.]
G. jeanneti Sánchez Roig, 1949:54–55, pl. 2: figs. 7–8. [Cuba.]
G. lamberti Kühn, 1925:178–179, 186–187, fig. 1, pl. 11: fig. 1. [Austria.] (Upper Santonian.)
G. lemoinei Lambert, 1933a:16, pl. 2: figs. 4–6. [Madagascar, off East Africa.] (Upper Turonian.)
G. madrugensis Sánchez Roig, 1949:53–54, pl. 2: figs. 11–12. [Cuba.]

G. supremus Hawkins, 1924:313–316, pl. 18: figs. 1–2. [Jamaica, West Indies.] (Cenomanian-Turonian.)

LOWER CRETACEOUS

G. atavus Nisiyama, 1950b:30–32, pl. 4: figs. 3–4. [Japan.] (Aptian/Albian.)
G. bolaensis Jones, 1938:132, pl. 13: figs. 5–6, 8. [Mexico.] (Aurora Fm.)
G. royoi Lambert, 1928a:155–157, fig. 1. [Spain.] (Aptian.)
G. stocktonensis Smiser, 1936:459, pl. 62: figs. 7, 16. [Texas, U.S.A.] (Comanchean.)
G. zitteli Clark *telostocensis* Maldonado-Koerdell, 1953:38–39, pl. 2: figs. 38–40. [Mexico.] (Aptian.)

Subgenus *Tetragoniopygus* Fell and Pawson

PALEOCENE-CRETACEOUS

G. (Tetragoniopygus) Fell and Pawson in Durham et al., 1966:U412, fig. 306(4). [Europe, North America, Caribbean.] Type-species: *Goniopygus supremus* Hawkins.

Genus *Magnosia* Michelin

UPPER JURASSIC

M. cottreaui Lambert, 1931d:182, pl. 5: figs. 41–42. [Egypt.]

MIDDLE JURASSIC

M. jacobi Mercier, 1932:207–208, pl. 7: fig. 8. [France.] (Middle Bathonian.)
M. mortenseni Lambert, 1936c:20, pl. 1: figs. 33–34. [Madagascar, off East Africa.] (Callovian.)
M. termieri Lambert, 1931c:19–20, pl. 1: figs. 17–18. [North Africa.] (Vesulian, Middle Bathonian.)

Order TEMNOPLEUROIDA Mortensen

Family GLYPHOCYPHIDAE Duncan

Genus *Ambipleurus* Lambert

UPPER EOCENE

Ambipleurus Lambert, 1931d:198. Type-species: *Dictyopleurus douvillei* Lambert. [Europe, Egypt, West Pakistan.] (Priabonian.)

LOWER EOCENE

A. rotundatus Kier, 1957b:847, figs. 1e–g, pl. 103: fig. 9. [British Somaliland, East Africa.] (Upper Auradu Series.)

Genus *Medocechinus* Jeannet

UPPER EOCENE

Medocechinus Jeannet, 1935b:559–560; 1936:3. Type-species: *M. fabrei* Jeannet, 1935b:559–560; 1936:3, figs. 1–2, pl. 1: figs. 1–3, pl. 2: figs. 1–4. [France.] (Upper Lutetian.)
M. castexi Jeannet, 1936a:7–9, figs. 6–10, pl. 1: figs. 8–10. [France.] (Upper Lutetian.)
M. daguini Jeannet, 1936a:5–7, figs. 3–5, pl. 1: figs. 4–7, pl. 2: figs. 10–12. [France.] (Upper Lutetian.)

Genus *Arachniopleurus* Duncan and Sladen

MIDDLE EOCENE

A. istrianus Innocenti, 1924:43–44, pl. 2: figs. 7–10. [Istria (Peninsula), Yugoslavia.]

Genus *Dictyopleurus* Duncan and Sladen

UPPER EOCENE

D. duncani Lambert, 1931d:198. [India.]
D. douvillei Lambert, 1931d:197–198, pl. 5: figs. 1–4. [Egypt.] (Priabonian.)

Genus *Echinopsis* L. Agassiz

LOWER EOCENE

E. friryi Lambert in Lambert and Jacquet, 1936: 346–348, pl. 21: figs. 6–8. [Senegal, West Africa.]
E. jacqueti Lambert in Lambert and Jacquet, 1936: 348, pl. 21: fig. 9. [Senegal, West Africa.]

Genus *Hebertia* Michelin

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U416) consider *Hebertia* a subjective synonym of *Echinopsis* L. Agassiz.

Upper Oligocene

H. jacksoni Lambert in Sánchez Roig, 1949:39–40, pl. 2: figs. 9–10. [Cuba.]

Middle Eocene

H. simplex Hawkins, 1924:317–318, pl. 18: figs. 4–5. [Jamaica, West Indies.]

Upper Cretaceous

H. calvachei Sánchez Roig, 1949:40, pl. 3: figs. 1–2. [Cuba.]

H. pentagona Sánchez Roig, 1949:40–41, pl. 4: figs. 1–2. [Cuba. Erroneously referred elsewhere in text (page 40 and plate explanation) to "Pseudorthosis".]

Genus *Hemidiadema* L. Agassiz

Middle Jurassic

H. mortenseni Maccagno, 1947b:116–118, pl. 1: figs. 6, 6a–b. [Somaliland, East Africa.] (Callovian-Oxfordian.)

Genus *Radiocyphus* Cotteau

Eocene

R. hungaricus Thirring, 1936:58–59, pl. 2: fig. 15. [Hungary.]

Family TEMNOPLEURIDAE A. Agassiz

Genus *Temnopleurus* L. Agassiz

Recent

T. australis H. L. Clark, 1928:458–461, fig. 138. [South Australia.]

T. hardwickii (Gray) var. *impressus* Mortensen, 1942:226. [Gulf of Tschili, China.]

T. michaelseni (Döderlein) var. *viridis* H. L. Clark, 1938:382. [Western Australia.]

Miocene/Pliocene

T. iranicus Douglas, 1928:11–12, pl. 12: fig. 11. [Persia (Iran).] (Upper Fars Fm.)

Miocene

T. latidunensis Clegg, 1933:18–19, pl. 2: figs. 5a–c. [Persian Gulf.]

T. persica Clegg, 1933:21–23, fig. 2, pl. 2: figs. 7a–d. [Persia (Iran).]

T. sundaicus Jeannet in Lambert and Jeannet, 1935:19–22, figs. 4–6, pl. 1: figs. 29–34, pl. 3: figs. 3–10. [Java, Indonesia.]

Genus *Prymnechinus* Koehler

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U418) consider *Prymnechinus* a subjective synonym of *Temnopleurus* L. Agassiz.

Recent

Prymnechinus Koehler, 1927:109. Type-species: *P. proctalis* Koehler, 1927:110–112, pl. 17: figs. 11–12, 14. [Andaman Islands, Bay of Bengal, Indian Ocean.]

Genus *Coptopleura* Ikeda

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U418) consider *Coptopleura* a subjective synonym of *Temnopleurus (Toreumatica)* Gray.

Recent

Coptopleura Ikeda, 1940:93. Type-species: *C. sema* Ikeda, 1940:93–96, pl. 6: figs. 1–5. [Malaysia, Southeast Asia.]

Genus *Amblypneustes* L. Agassiz

Recent

A. pallidus (Lamarck) var. *subglobosus* Mortensen, 1942:227. [Southwest Australia.]

Upper Oligocene

A. corrali Lambert and Roig in Sánchez Roig, 1949:46, pl. 2: fig. 13. [Cuba.]

Genus *Arbacina* Pomel

Oligocene

A. blancheti Lambert in Castex, 1930:17–18, pl. 1, figs. 2–4. [France.]

Genus *Asaphechinus* Philip

Miocene

Asaphechinus Philip, 1969:240–242. Type-species: *A. murrayensis* Philip, 1969:242–243, figs. 2a–c, 2e–g, pl. 5: figs. 1–4, 6, 7, pl. 12: fig. 5. [Southeast Australia.] (Lonfordian.)

Pliocene/Miocene

A. singletoni Philip, 1969:244–247, figs. 3a, 3b, 3d, 3f, 3h, 3i, pl. 6: figs. 1–4, 8–12, pl. 12: figs. 3, 4, 7, pl. 13: fig. 4. [Southeast Australia.] (Cheltenhamian.)

Miocene

A. princeps Philip, 1969:243–244, figs. 3c, 3e, 3g, pl. 5: figs. 8–10, pl. 12: fig. 5, pl. 14: figs. 1–3. [Southeastern Australia.] (Lonfordian.)

Oligocene

A. tasmanensis Philip, 1969:247–248, figs. 8g–i, pl. 6: figs. 5–7, pl. 15: fig. 2. [Southeast Australia.] (Janjukian.)

Genus *Asterechinus* Mortensen

Recent

Asterechinus Mortensen, 1942:228. Type-species. *A. elegans* Mortensen, 1942:228. [Malaysia, off Admiralty Island, West Pacific Ocean.]

Genus *Brochopleurus* Fourtau

Miocene/Lower Pliocene

B. pulcherrimus Nisiyama, 1966:237–238, pl. 5: figs. 12–15, pl. 6: figs. 4–5. [Japan.] (Komayama Fm.)

Upper Oligocene/Lower Miocene

B. australiae Fell, 1949:17–19, pl. 1. [Australia.] (Janjukian.)

Genus *Cryptechinus* Philip

Middle Miocene

Cryptechinus Philip, 1969:236–237. Type-species: *Psammechinus* (?) *humilior* Bittner.

Genus *Javanechinus* Jeannet

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U418) consider *Javanechinus* a synonym of *Desmechinus* H. L. Clark.

Miocene

Javanechinus Jeannet in Lambert and Jeannet, 1935:49–50. Type-species: *J. rembangensis* Jeannet in Lambert and Jeannet, 1935:50–51, figs. 65a, 66–68, pl. 2: figs. 35–37, pl. 4: figs. 17–18. [Java, Indonesia.]

J. erbi Jeannet in Lambert and Jeannet, 1935:51–53, figs. 65b, 69–72, pl. 2: figs. 38–40, pl. 4: figs. 19–20. [Java, Indonesia.]

Genus *Erbechinus* Jeannet

Pliocene

Erbechinus Jeannet in Lambert and Jeannet, 1935: 16. Type-species: *E. erbi* Jeannet in Lambert and Jeannet, 1935:16–18, figs. 1–2, pl. 1: figs. 23–28, pl. 33: figs. 1–2. [Java, Indonesia.]

Miocene

E. gratus Nisiyama, 1966:234–235, fig. 19, pl. 5: figs. 5–8. [Japan.] (Shirahama Fm.)

Genus *Genocidaris* A. Agassiz

RECENT

G. incerta H. L. Clark, 1928:457–458, fig. 137. [South Australia.)
G. splendens Mortensen, 1927c:28–29, figs. 3–9, pl. 2: figs. 3–4. [Canary Islands, off Northwest African coast.]

Genus *Grammechinus* Duncan and Sladen

MIOCENE/OLIGOCENE

G. meridionalis Philip, 1969:249–250, fig. 2h, pl. 4: figs. 10–13, pl. 14: figs. 5–6. [Southeast Australia.] (Janjukian-Batesfordian.]

Genus *Graphepleurus* H. L. Clark

MIOCENE

Graphepleurus H. L. Clark, 1945:315. Type-species: *G. granularis* H. L. Clark, 1945:315–317, pl. 41: figs. F–G. [Fiji, South Pacific Ocean.]

Genus *Irenechinus* Fell

LOWER MIOCENE

Irenechinus Fell, 1963a:211. Type-species: *I. hentyi* Fell, 1963a:211–213, pl. 1 (pt.). [Victoria, Australia.]

Genus *Lamprechinus* Döderlein

RECENT

L. sculptus Mortensen, 1942:229. [Japan.]
L. sculptus Mortensen var. *hawaiiensis* Mortensen, 1942:229. [Polynesian Seas, Hawaii.]

Genus *Martinechinus* Jeannet

PLEISTOCENE-PLIOCENE

Martinechinus Jeannet in Jeannet and Martin, 1937:232. Type-species: *M. molengraaffi* Jeannet in Jeannet and Martin, 1937:233–234, figs. 9a–e. [Timor, South Malay Archipelago.]

Genus *Mespilia* Desor

RECENT

M. globulus (Linné) var. *albida* H. L. Clark, 1925a: 93–94. [Locality unknown.]

Genus *Microcyphus* L. Agassiz

RECENT

M. ceylanicus Mortensen, 1942:227. [Ceylon and Andaman Islands, Bay of Bengal, Indo-Pacific Ocean.]
M. excentricus Mortensen, 1940a:46–47; 1943a:161–163, fig. 86, pl. 17: figs. 22–24. [Malaysia.]
M. keiensis Mortensen, 1942:227. [Kei Islands, Malaysia.]
M. maculatus L. Agassiz var. *godeffroyi* Mortensen, 1942:226. [Tonga, Society Islands?, Polynesian Seas.]
M. pulchellus H. L. Clark, 1928:462–463, fig. 139. [South Australia.]
M. rousseaui L. Agassiz var. *purpuratus* Mortensen, 1942:227. [Zanzibar, East Africa.]

MIOCENE

M. javanus Jeannet in Lambert and Jeannet, 1935: 45–47, figs. 56–59, pl. 2: figs. 19–23. [Java, Indonesia.]
M. javanus Jeannet var. *inornata* Jeannet in Lambert and Jeannet, 1935:47, fig. 60, pl. 2: figs. 24–26. [Java, Indonesia.]
M. melo Jeannet in Lambert and Jeannet, 1935: 47–49, figs. 61–64, pl. 2: figs. 27–29, 32–34. [Java, Indonesia.]

Genus *Opechinus* Desor

RECENT

O. albus Mortensen, 1942:228. [Kei Islands, Malaysia.]
O. albus Mortensen var. *virescens* Mortensen, 1942: 228. [Off Jolo Island, Malaysia.]

MIOCENE

O. cheribonensis Jeannet in Lambert and Jeannet, 1935:25–27, figs. 7–9, pl. 1: figs. 37–43, pl. 3: figs. 11–13. [Java, Indonesia.]

O. collignoni Jeannet in Lambert and Jeannet, 1935:27–29, figs. 10–13, pl. 1: figs. 53–54. [Java, Indonesia.]

O. madurae Jeannet in Jeannet and Martin, 1937: 228–230, figs. 7–8d. [Dutch East Indies, West Pacific Ocean.] (Jung.)

Genus *Pseudopechinus* Lambert and Thiéry

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U423) consider *Pseudopechinus* an objective synonym of *Opechinus* Desor.

TERTIARY

Opechinus (Pseudopechinus) lamberti Jeannet in Lambert and Jeannet, 1935:31–34, figs. 19–26, pl. 1: figs. 47–52, pl. 3: fig. 16, pl. 4: figs. 1–2. [Java, Indonesia.] (Probably Pliocene.)

O. (P.) lorioli Jeannet in Lambert and Jeannet, 1935:29–31, figs. 14–18, pl. 1: figs. 45–46, pl. 3: figs. 14–15. [Java, Indonesia.] (Probably Pliocene.)

MIOCENE

O. (P.) percultus Desor var. *oligoporus* Martin in Jeannet and Martin, 1937:232. [Dutch East Indies, West Pacific Ocean.] (Jung.)

Genus *Orthologhus* Duncan

In the *Treatise* Fell and Pawson (Durham et al., 1966:U424) consider *Orthologhus* a subjective synonym of *Paradoxechinus* Laube.

MIDDLE MIOCENE

O. morganensis Philip, 1969:255–257, figs. 6a–b, 6h, pl. 7: figs. 1–13. [Southeast Australia.] (Morgan Ls., Batesfordian or Balcombian.)

O. venustus Philip, 1969:259–260, figs. 6d, 6f, 6g, pl. 9: figs. 1–7, 9, 11–14. [Southeast Australia.] (Batesfordian/Longfordian.)

UPPER EOCENE

O. bittneri Philip, 1969:253–255, figs. 6c, 6e, 6i–j, pl. 11: figs. 13–21, pl. 13: figs. 2–3, 5–7. [Southeast Australia. New name for *O.* (orig. *Coptechinus*) *lineatus* (Bittner, 1892) not *O. lineatus* Duncan, 1877).] (Tortachilla Ls.)

Genus *Paratrema* Koehler

RECENT

Paratrema Koehler, 1927:90–91. Type-species: *Pleurechinus doederleini* Mortensen. [Andaman Islands, Bay of Bengal, Indo-Pacific Ocean.]

Genus *Printechinus* Koehler

RECENT

Printechinus Koehler, 1927:97–98. Type-species: *P. impressus* Koehler, 1927:98–103, pl. 15: figs. 3–11, pl. 27: fig. 2. [Indian Ocean.]

P. viridis Mortensen, 1942:228. [Malaysia, East of Sumatra.]

PLIOCENE

P. javanus Lambert and Jeannet, 1935:23–24, pl. 1: figs. 35–36, pl. 4: figs. 9–10. [Java, Indonesia.] (Couches de Tremboel.)

Genus *Prionechinus* A. Agassiz

MIDDLE MIOCENE

P. salomacensis Lambert, 1928b:88, figs. 5–6. [France.] (Helvetian.)

LOWER MIOCENE

P. duvergieri Lambert, 1928b:86–87, figs. 3–4. [France.] (Langhian/Burdigalian.)

Genus *Pseudechinus* Mortensen

RECENT

P. hesperus H. L. Clark, 1938:395–397, fig. 35, pl. 27: fig. 1. [Western Australia.]

RECENT/PLEISTOCENE

P. flemingi Fell, 1958:36, pl. 3: figs. A, B, pl. 5: fig. a. [South and East New Zealand.]

Genus *Notechinus* Döderlein

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U425) consider *Notechinus* a subjective synonym of *Pseudechinus.*

RECENT

N. marionis Mortensen, 1936a:221–223, fig. 1, pl. 2: figs. 5–10, pl. 9: figs. 1–4. [Southern Ocean, off Marion Island.]

Pseudechinus (Notechinus) sanctipauli Dollfus, 1946:160–178, figs. 1–16, pls. 3–4. [Southern Ocean.]

Genus *Pseudodicoptella* Jeannet

PLIOCENE

Dicoptella (Pseudodicoptella) Jeannet in Lambert and Jeannet, 1935:44. Type-species: *D. (P.) reicheli* Jeannet in Lambert and Jeannet, 1935:44–45, figs. 54–55, pl. 1: fig. 22, pl. 4: figs. 11–13. [Dutch East Indies.]

Genus *Salmaciella* Mortensen

RECENT

Salmaciella Mortensen, 1942:226. Type-species: *Salmacis dussumieri* L. Agassiz. [Western-Indo-Pacific.]

Genus *Salmacis* L. Agassiz

RECENT

S. belli Döderlein var. *unicolor* Mortensen, 1942: 226. [Coast of Queensland, Australia.]

S. roseoviridis Koehler, 1927:84–88, pl. 12: figs. 3–6, pl. 26: fig. 3. [Indian Ocean.]

S. rubricincta H. L. Clark, 1925a:86–87, pl. 5: figs. 3–4. [Saya de Malha, Indian Ocean.]

S. sphaeroides (Linnaeus) var. *variegata* Mortensen, 1942:226. [Malaysia, off Jolo; Amboina Islands.]

PLIOCENE

S. nuda Currie, 1930:174, pl. 16: fig. 3. [Mombasa Island, East Africa.]

Genus *Tatechinus* Philip

UPPER EOCENE

Tatechinus Philip, 1969:268–269. Type-species: *T. nudus* Philip, 1969: 269-271, figs. 8a–f, 8i, pl. 4: figs. 7–9, 14–15, pl. 14: fig. 7, pl. 15: fig. 4. [Southeastern Australia.] (Tortachilla Ls.)

Genus *Temnotrema* A. Agassiz

RECENT

T. notium H. L. Clark, 1938:387–388, pl. 26: fig. 5. [Western Australia.]

T. pallescens H. L. Clark, 1925a:90–91, pl. 7: figs. 5–6. [Billiton Island, Indonesia, in Java Sea.]

T phoenissa H. L. Clark, 1926:188–191, fig. 1. [Great Barrier Reef, Australia.]

T siamense (Mortensen) var. *megaloplax* Mortensen, 1942:227. [Indo-Pacific, off Misol, Indonesia.]

T. siamense (Mortensen) var. *rubicundum* Mortensen, 1942:227. [Mauritius, east of Madagascar, in Indian Ocean.]

Genus *Dicoptella* Lambert

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U425) consider *Dicoptella* a synonym of *Temnotrema* A. Agassiz.

MIOCENE

D. agassizi Lambert and Thiéry var. *elevata* Jeannet in Lambert and Jeannet, 1935:38, figs. 37–39, pl. 2: fig. 6, pl. 4: fig. 7. [Java, Indonesia.]

D. agassizi Lambert and Thiéry var. *tenuis* Jeannet in Lambert and Jeannet, 1935:37–38, figs. 30–36, pl. 2: figs. 1–3, pl. 4: fig. 5. [Java, Indonesia.]

D. javana Jeannet in Lambert and Jeannet, 1935: 40–41, figs. 45–47, pl. 2: figs. 16–18. [Java, Indonesia.]

D. leupoldi Jeannet in Lambert and Jeannet, 1935: 38, fig. 40, pl. 2: figs. 7–9, pl. 4: fig. 8. [Java, Indonesia.]

D. tobleri Jeannet in Lambert and Jeannet, 1935: 39–40, figs. 41–44, pl. 2: figs. 10–15, pl. 4: figs. 6, 14. [Java, Indonesia.]

Upper Miocene

D. promensis Currie, 1939:221–226, figs. 1–5, pl. 14: figs. 6a–c. [Burma, Southeast Asia.] (Pegu Stage.)

Paleocene

D. desioi Airaghi, 1934:65, pl. 5: fig. 2. [Libya, North Africa.]

Subgenus *Dicoptella (Paradicoptella)* Jeannet

In the *Treatise,* Fell and Pawson (Durham et al., 1966:U425) consider *Paradicoptella* Jeannet a synonym of *Temnotrema* A. Agassiz.

Miocene

Dicoptella (Paradicoptella) Jeannet in Lambert and Jeannet, 1935:42. Type-species: *D. (P.) rutteni* Jeannet in Lambert and Jeannet, 1935: 42–44, figs. 51–53, pl. 4: fig. 16. [Java, Indonesia.]

Genus *Trigonocidaris* A. Agassiz

Recent

T. indica Mortensen, 1942:229. [Madagascar, Indian Ocean.]
T. micropora Mortensen, 1942:229. [Malaysia.]
T. radiata Mortensen, 1942:228. [Kei Islands, Malaysia.]
T. versicolor Koehler, 1927:94–97, pl. 14: figs. 3–4, 6–10, 13, pl. 27: fig. 1. [Indian Ocean.]

Genus *Triplacidia* Bittner

Lower Oligocene/Upper Eocene

T. fraasi Loriol var. *boncevi* Gočev, 1928:40, 48, fig. 2. [Bulgaria.]

Eocene

T. hungarica Vogl, 1921:128. [Hungary.]

Middle Eocene

T. trakyensis Pinar, 1951:37–38, figs. 1–2, 4, 7, 9, pl. 1b: figs. 2–3. [Turkey.] (Auversian. Lutetian.)

Genus *Zeuglopleurus* Gregory

Upper Cretaceous

Echinocyphus (Zeugopleurus) glanoviensis Kongiel, 1939:24–25, pl. 2: fig. 29, pl. 3: figs. 1–3. [Poland.] (Lower Turonian.)

Family TOXOPNEUSTIDAE Troschel

Genus *Cyrtechinus* Mortensen

Recent

Cyrtechinus Mortensen, 1942:229. Type-species: *Psammechinus verruculatus* Lütken. [Tropical Western-Indo Pacific.]

Genus *Gymnechinus* Mortensen

Recent

G. abnormalis H. L. Clark, 1925a:128–129, pl. 7: figs. 3–4. [Carcajos Carodos?]
G. pallidus Koehler, 1927:113–118, pl. 17: figs. 5, 13, 15, pl. 18: figs. 1–6, pl. 19: figs. 2–3, pl. 27: fig. 4. [Ceylon.]

Genus *Lytechinus* A. Agassiz

Recent

L. thieryi Koehler, 1927:104–108, pl. 18: figs. 7–8, pl. 19, fig. 4, pl. 27: fig. 6. [Ceylon.]
L. variegatus (Leske) var. *pallida* H. L. Clark, 1925a:121. [Cape Verde Islands, Atlantic Ocean.]
L. williamsi Chesher, 1968b:3–5, figs. 1–2, 3a, 3c–i, 4–5, table 1. [Buena Ventura, Panama (Atlantic).]

Upper Miocene/?Pleistocene

L. variegatus (Leske) *plurituberculatus* Kier, 1963: 15–19, figs. 8–11, pl. 2: figs. 1–2, pl. 3: fig. 1, pl. 4: fig. 4. [Florida, U.S.A.] (Caloosahatchee and Tamiami Fm.)

PLIOCENE

L. crassus H. L. Clark, 1945:317–318, pl. 41: figs. H–I. [Fiji, South Pacific Ocean.]
L. okinawa Cooke, 1954:46, pl. 9: figs. 3–5. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)

LOWER MIOCENE

L. coreyi Grant and Hertlein, 1938b:24, pl. 20: fig. 7. [California, U.S.A.] (Vasqueros.)
L. (?) *milleri* Grant and Hertlein, 1938b: 24–25, pl. 15: figs. 1–2. [California, U.S.A.] (Vaqueros.)

Genus *Mirechinus* Nisiyama

UPPER EOCENE

Mirechinus Nisiyama, 1966:239–240. Type-species: *M. mirabilis* Nisiyama, 1966:240–242, pl. 6: fig. 3, pl. 7: figs. 2,4. [Bonin Islands, Japan, West Pacific Ocean.] (Lutetian.)

Genus *Nudechinus* Clark

RECENT

N. ambonensis Mortensen, 1942:230. [Molucca Sea, Malaysia.]
N. ambonensis Mortensen var. *purpurascens* Mortensen, 1942:230. [Amboina, Malaysia.]
N. rubripunctatus H. L. Clark, 1925a:127–128, pl. 7: figs. 1–2. [Amirante Islands, Indian Ocean.]
N. scotiopremnus H. L. Clark var. *australiensis* Mortensen, 1942:230. [Western Australia.]

Genus *Pseudocentrotus* Mortensen

MIOCENE

P. stenoporus Nisiyama, 1966:247–249, pl. 7: figs. 3–7. [Japan.] (Shirahama Fm.)

Genus *Schizechinus* Pomel

PLIOCENE

S. candeli Lambert, 1931c:44–45, pl. 7: figs. 2–4. [North Africa.]

Genus *Scoliechinus* Arnold and Clark

EOCENE

Scoliechinus Arnold and H. L. Clark, 1927:23. Type-species: *S. axiologus* Arnold and H. L. Clark, 1927:23–24, pl. 2: figs. 7–8. [Jamaica, West Indies.]

Genus *Sphaerechinus* Desor

LOWER MIOCENE

Spherechinus [sic] *burdigalensis* Lambert, 1928b:90, fig. 2. [France.] (Upper Aquitanian.)

Genus *Tripneustes* L. Agassiz

MIDDLE MIOCENE

T. tobleri Jeannet, 1928a:17–19, fig. 2, pl. 2: figs. 1–3, pl. 6: figs. 4–6; 1928b:220. [Venezuela.] (Couches d'Ojo de Aqua.)
T. ventricosus (Lamarck) *austriacus* Tauber, 1951: 312–313, figs. 1–4. [Austria.] (Tortonian.)

LOWER MIOCENE

T. magnificus Nisiyama, 1966:243–245, pl. 6: figs. 2, 7, 9, pl. 7: fig. 1. [Mariana Island, West Pacific Ocean.] (Laulau Fm.)

Family Uncertain

Genus *Gagaria* Duncan

UPPER OLIGOCENE

Thylechinus (Gagaria) chickasawhay Cooke, 1941a: 14, pl. 2: figs. 17a–d. [U.S.A.]
T. (G.) mossomi Cooke, 1941a:13–14, pl. 1: figs. 6–9, pl. 2: fig. 16, pl. 3: figs. 6–9, pl. 4: figs. 3–5. [U.S.A.]

MIDDLE EOCENE

G. foutatoroensis Roman in Élouard and Roman, 1966:840–843, fig. 2, pl. 19. [Senegal, West Africa.] (Lower Lutetian.)

LOWER EOCENE

T. (G.) salis Cooke, 1941a:13, pl. 2: figs. 12–14. [U.S.A.]

Order ECHINOIDA Claus

Family ECHINIDAE Gray

Genus *Echinus* Linné

RECENT

E. atlanticus Mortensen var. *helenae* Mortensen, 1942:230. [St. Helena Island, west coast of Africa, tropical Atlantic Ocean.]
E. multidentatus H. L. Clark, 1925a:115–116, pl. 6: figs. 1–2. [*Challenger* Sta. 170, near the Kermadec Islands, Pacific Ocean.]
E. stenoporus Mortensen, 1942:230. [South Africa.]

Genus *Dermechinus* Mortensen

RECENT

Dermechinus Mortensen, 1942:231. Type-species: *Echinus horridus* A. Agassiz. [Indo-Pacific.]

Genus *Gracilechinus* Fell and Pawson

RECENT/PLIOCENE

Gracilechinus Fell and Pawson in Durham et al., 1966:U431, fig. 322(1a). [England; Atlantic-Mediterranean-IndoPacific.] Type-species: *Echinus gracilis* A. Agassiz.

Genus *Paracentrotus* Mortensen

RECENT

P. grandis H. L. Clark, 1923:388, pl. 22: figs. 1–3. [South Africa.]

Genus *Polyechinus* Mortensen

RECENT

Polyechinus Mortensen, 1942:231. Type-species: *Paracentrotus agulhensis* Döderlein. [South Africa.]

Genus *Psammechinus* L. Agassiz and Desor

PLIOCENE

P. punicus Lambert, 1931c:103, pl. 4: figs. 10–12. [Tunis, North Africa.]

MIOCENE

P. dainellii Desio, 1929:299–301, pl. 39: figs. 2a–d. [Oasis of Giarabùb, east Cyrenaica, Libya.]

MIDDLE MIOCENE

P. neuvillei Lambert, 1928b:88. [France. Also described and figured in Lambert, 1928e:8, pl. 5: figs. 15–18. (Helvetian.)]

PALEOCENE

P. desioi Airaghi, 1934:64–65, pl. 5: fig. 1. [Libya, North Africa.]

OLIGOCENE

P. arnei Castex, 1947:30–31, pl. 1: fig. 5. [France.] (Lattorfian-Sannoisian.)

UPPER OLIGOCENE

P. floralanus Cooke, 1941a:15–16, pl. 3: figs. 10–11. [U.S.A.]

UPPER EOCENE

P.? ocalanus Cooke, 1941a:16, pl. 2, figs. 9–11. [U.S.A.]

MEDIAL EOCENE

P. santee Cooke, 1941a:15, pl. 2: figs. 7–8. [U.S.A.] (McBean Fm.)

LOWER CRETACEOUS

P. demolyi Lambert in Démoly, 1928:146, fig. [France.]
P. simplex Lambert, 1931c:66, pl. 3: figs. 6–7. [Algiers, North Africa.] (Aptian.)

Genus *Sterechinus* Koehler

RECENT

S. dentifer Koehler, 1926:34–36, pl. 104: figs. 1–4, pl. 120: fig. 1. [Antarctic.]
S. neumayeri (Meissner) var. *nigroalba* Mortensen, 1942:231. [Antarctic.]

Genus *Stirechinus* Desor

MIOCENE

S. minor Cotteau var. *couffoni* Cottreau, 1933: 542–543, pl. 26: figs. 5–6a. [France.]

Family ECHINOMETRIDAE Gray

Genus *Echinometra* Gray

MIOCENE

E. hondoana Nisiyama, 1966:270–271, pl. 10: fig. 1. [Japan.] (Kozai Fm.)

Genus *Ellipsechinus* Lütken

CRETACEOUS

Ellipsechinus palmeri Lambert in Sánchez Roig, 1949:46–47, pl. 2: figs. 5–6. [Cuba. Although Sánchez Roig thinks it is possibly Pleistocene, Brodermann (1949:322) maintains it is Cretaceous.]

Genus *Echinostrephus* A. Agassiz

RECENT

E. formosus Mortensen, 1940a:50; 1943b:306, pl. 35: figs. 11–14. [Malaysia.]

MIOCENE

E. saipanicum Cooke, 1957:362, pl. 119: figs. 4–6. [Mariana Islands, West Pacific Ocean.]

Genus *Evechinus* Verrill

PLIOCENE/MIOCENE

E. palatus Philip, 1969:234–235, pl. 16: figs. 1–6. [Southeast Australia.] (Cheltenhamian.)

Genus *Heliocidaris* L. Agassiz and Desor

RECENT

H. erythrogramma (Valenciennes) var. *parvispina* H. L. Clark, 1938:404. [Southwest Australia.]

MIOCENE

H. ludbrookae Philip, 1965:192–194, fig. 4c, pl. 27: figs. 1–4, pl. 28: figs. 1–2. [Southeast Australia.]

Genus *Zenocentrotus* A. H. Clark

RECENT

Zenocentrotus A. H. Clark, 1932:5–7. Type-species: *Z. kellersi* A. H. Clark, 1932:7–10, pls. 1–3, pl. 4: fig. 1, pl. 5: fig. 1, pl. 6: fig. 3. [Niuafoou Island (between Samoa and Fiji), South Pacific Ocean.]
Z. paradoxus A. H. Clark, 1932:10, pl. 5: fig. 2, pl. 6: figs. 1–2, pl. 7: figs. 1–2. [Niuafoou Island, South Pacific Ocean.]

MIOCENE

Z. peregrinus Philip, 1965:194–195, fig. 4b, pl. 28: figs. 3–6, pl. 29: figs. 6, 9. [Southeast Australia.]

Family STRONGYLOCENTROTIDAE Gregory

Genus *Strongylocentrotus* Brandt

RECENT

S. djakonovi Baranova, 1957:223–225, figs. 14a–i. [Bering Sea.]
S. intermedius Agassiz f. *longispina* Djakonov, 1938: 474–475, 497. [Japan Sea.]
S. polyacanthus Agassiz and Clark *apicimagis* Baranova, 1957:221–223, figs. 13a–e. [Bering Sea.]

Pliocene

S. magistrus Nisiyama, 1966:255–256, pl. 8: figs. 1–3. [Japan.] (Himi Fm.)

Lower Pliocene/Miocene

S.? octoporus Nisiyama, 1966:256–258, pl. 8: figs. 7–8. [Japan.]

Miocene

S. antiquus Philip, 1965:189–191, figs. 3a–b, 4a, 4d, pl. 29: figs. 1–3. [Southeast Australia.]
S. minihagali Deraniyagala, 1961:154, pl. 5: fig. 10. [Ceylon, Indian Ocean.]

Genus *Allocentrotus* Mortensen

Recent

Allocentrotus Mortensen, 1942:232. Type-species: *Strongylocentrotus fragilis* Jackson. [Vancouver, Canada, to Lower California, U.S.A.]

Lower Pliocene

A. japonicus Nisiyama, 1966:258–260, pl. 8: figs. 4, 10–14, pl. 9: figs. 1–2, 4–6. [Japan.] (Kurotaki Fm.)

Genus *Hemicentrotus* Mortensen

Recent

Hemicentrotus Mortensen, 1942:231. Type-species: *Sphaerechinus pulcherrimus* A. Agassiz. [Japan-North China.]

Family PARASALENIIDAE Mortensen

Genus *Parasalenia* A. Agassiz

Recent

P. gratiosa A. Agassiz var. *boninensis* Mortensen, 1930:388, pl. 1: figs. 2–5. [North Pacific Ocean.]

Miocene

P. marianae Cooke, 1957:361–362, pl. 119: figs. 1–3. [Mariana Islands, West Pacific Ocean.]

Genus *Diplosalenia* Mortensen

Eocene

Diplosalenia Mortensen, 1942:232. Type-species: *Parasalenia gosseleti* Cotteau. [France.]

Superorder Uncertain (ECHINACEA or DIADEMATACEA)

Order ORTHOPSIDA Mortensen

Family ORTHOPSIDAE Duncan

Genus *Orthopsis* Cotteau

Upper Cretaceous

O. casanovai Cooke, 1955:92–93, pl. 20: figs. 1–3. [Texas, U.S.A.] (Campanian.)
O. sanfilippoi Checchia-Rispoli, 1933b:6–11, figs. 2–4, pl. 1: figs. 5–15. [North Africa.] (Maestrichtian.)

Lower Cretaceous

O. aguilerai Maldonado-Koerdell, 1953:28–29, pl. 1: figs. 25–27. [Mexico.] (Aptian.)
O. bahiaensis Brito, 1964:6–7, pl. 1: figs. 2–3, pl. 2: figs. 1–2. [Brazil.] (Albian.)
O. comalensis Whitney and Kellum, 1966:250–253, pl. 1: figs. 13–15. [Texas, U.S.A.] (Trinity Group. Aptian.)
O. royoi Lambert, 1935f:523, pl. 58: figs. 3–5. [Spain.] (Aptian.)
O. titicacana Cooke, 1949b:84–85, pl. 22: figs. 1–5. [Peru.] (Aptian/Albian?)

Upper Jurassic

O. pomeraniae Kongiel, 1957:30–32, 53–55, 70–72, pl. 5: figs. 5–6. [Pomerania, on the Baltic Sea.] (Upper Kimmeridgian.)

Genus *Dubarechinus* Lambert

Dubarechinus Lambert, 1937:62–63. Type-species: *D. despujolsi* Lambert, 1937:63, pl. 4: figs. 14–17. [Morocco.] (Upper Domerian.)

D. termieri Lambert, 1937:63–64, pl. 4: fig. 18. [Morocco.] (Upper Domerian.)

Doubtful Genera of Regular Echinoids

Genus *Besairiecidaris* Lambert

MIDDLE JURASSIC

Besairiecidaris Lambert, 1936b:117–118. Type-species: *B. ankarensis* Lambert, 1936b:118, pl. 6: figs. 11–12. [Madagascar, off East Africa.] (Bajocian.)

Genus *Bramus* de Gregorio

PERMIAN

Cidaris (*Bramus*) de Gregorio, 1930a:34. Type-species: *C.* (*B.*) *simplex* de Gregorio, 1930a: 34, pl. 12: figs. 13–14. [Italy.]

C. (B.) pirillus de Gregorio, 1930a:34, pl. 12: figs. 15–17. [Italy.]

Genus *Crinocidaris* de Gregorio

TRIASSIC

Cidaris (*Crinocidaris*) de Gregorio, 1930b:29. Type-species: *Crinocidaris unicus* de Gregorio, 1930b: 29, pl. 6: figs. 29–31. [Italy. Fell and Pawson (Durham et al., 1966:U439) place it under "doubtful genera of regular echinoids."]

Genus *Firmacidaris* Lambert

LOWER JURASSIC

Firmacidaris Lambert, 1937:45–46. Type-species: *Spherotiaris precincta* Lambert. [Morocco.] (Domerian.)

UPPER JURASSIC

F. neumayri Nisiyama, 1966:168, pl. 30: figs. 1–2. [Japan.] (Probably Callovian to Tithonian.)

Genus *Protocidaris* de Gregorio

PERMIAN

Cidaris (*Protocidaris*) de Gregorio, 1930a:34. Type-species: *C.* (*P.*) *bencontestus* de Gregorio, 1930a: 34, pl. 12: figs. 20–21. [Italy.]

Genus *Radiolus* (auctt.)

TRIASSIC

R. adametzi Jekelius, 1932:49–50, pl. 2: figs. 50a–b, 51a–b. [Rumania.]

R. alutensis Jekelius, 1932:49, pl. 2: fig. 46. [Rumania.]

R. antipai Jekelius, 1932:50–51, pl. 2: fig. 48. [Rumania.]

R. boletus Bather, 1929:239–241, pl. 258: figs. 36a–38. [Timor Island, Indonesia.]

R. culter Bather, 1929:241–243, pl. 258: figs. 39a–41b. [Timor Island, Indonesia.]

R. festuca Bather, 1929:244–245, pl. 258: figs. 46–48b. [Timor Island, Indonesia.]

R. fusus Bather, 1929:245–246, pl. 258: fig. 49. [Timor Island, Indonesia.]

R. herbichi Jekelius, 1932:50, pl. 2: fig. 45. [Rumania.]

R. racadaui Jekelius, 1932:49, pl. 2: figs. 47a–c. [Rumania.]

R. rostratus Körner, 1937:163–164, pl. 11: figs. 1a–c. [Peru.]

R. segmentatus Bather, 1929:236–238, pl. 258: figs. 27–29b. [Timor Island, Indonesia.]

UPPER TRIASSIC

R. funginus Wanner, Knipscheer and Schenk, 1952:68–69, pl. 3: figs. 1–4. [Indonesia.]

Genus *Vernius* de Gregorio

PERMIAN

Cidaris (*Vernius*) de Gregorio, 1930a:34. Type-species: *C.* (*V.*) *elaboratus* de Gregorio, 1930a:34, pl. 12: figs. 18–19. [Italy.]

Superorder GNATHOSTOMATA Zittel

Order HOLECTYPOIDA Duncan

Suborder HOLECTYPINA Duncan

Family HOLECTYPIDAE Lambert

Genus *Holectypus* Desor

Cretaceous

H. bullardi Ikins, 1940:73–74, pl. 6: figs. 2a–c. [Texas, U.S.A.]
H. hondoensis Cannon in Ikins, 1940:74, pl. 6: figs. 3a–c. [Texas, U.S.A.]

Upper Cretaceous

H. boschmai Engel, 1964a:235–236, pl. 14. [Southern Netherlands.] (Senonian.)
H. decoratus Sánchez Roig, 1949:56, pl. 1: figs. 6–7. [Cuba.]
H. khamirensis Clegg, 1933:6–7, fig. 1, pl. 1: figs. 1a–c. [Persia (Iran).]
H. larteti Cotteau var. *major* Blanckenhorn, 1925 [1924]:91–92, pl. 7: figs. 12a–d. [Palestine, Israel.] (Cenomanian.)
H. montalvensis Sánchez Roig, 1953c: 138, pl. 1: figs. 2–3. [Cuba.]
H. parvus Jones, 1938:133, pl. 13: figs. 1, 9–10. [Mexico.] (Indidura Fm.)
H. subpentagonalis Blanckenhorn, 1925 [1924]: 92–93, pl. 7: fig. 13. [Palestine, Israel.] (Upper Cenomanian.)

Lower Cretaceous

H. adkinsi Smiser, 1936:461, pl. 62: figs. 12–15. [Texas, U.S.A.] (Comanchean.)
H. almeidae Rey, 1966:295–300, figs. 1–2, pl. 1: figs. 1–9. [Portugal.] (Hauterivian.)
H. engerrandi Lambert, 1927a:269. [Texas, U.S.A.] (Comanche Series.)
H. ovatus Whitney and Kellum, 1966:259–260, pl. 2: figs. 10–12. [Texas, U.S.A.] (Trinity Group. Aptian.)

Middle Jurassic

H. leuthardti Lambert, 1926b:118–122, pl. 10: figs. 1–2. [Switzerland.]

Lower Jurassic

H. hians Lambert, 1933b:55–56, pl. 1: fig. 10. [North Africa.] (Lower Domerian.)

Genus *Coenholectypus* Pomel

Upper Cretaceous

Holectypus (Caenholectypus?) macrostomus Engel, 1964a:236–239, figs. 1–2. [Southern Netherlands.] (Senonian.)

Lower Cretaceous

H. (C.) nanus Cooke, 1955:96, pl. 27: figs. 13–19. [Texas, U.S.A.] (Upper Albian.)
H. (Coenholectypus) peridoneus Nisiyama, 1950b: 32–33, pl. 4: figs. 5–7. [Japan.] (Aptian/Albian.)
H. (C.) planatus Roemer *aponensis* Cooke, 1961:6, pl. 2: figs. 4–5. [Venezuela.] (Middle Albian to Vraconian.)

Family ANORTHOPYGIDAE Wagner and Durham

Genus *Anorthopygus* Cotteau

Upper Cretaceous

A. paradoxus Hawkins, 1935a:51–53, figs. 5–7, pl. 7: figs. 1a–c. [Somaliland, East Africa.] (Upper Senonian.)
A. riveroi Sánchez Roig, 1949:55–56, pl. 5: figs. 1–2. [Cuba.]

Lower Cretaceous

A. texanus Cooke, 1946:219–220, pl. 34: figs. 9–12. [U.S.A.] (Washita Group.)

Family DISCOIDIDAE Lambert

Genus *Discoides* Parkinson

Upper Cretaceous

D. dubertreti Keller and Vautrin, 1937:148–150, fig. 47a, pl. 5: figs. 10–12. [Syria.] (Cenomanian.)
D. menchikoffi Lambert, 1937:76–77, pl. 1: figs. 19–22. [Morocco.] (Campanian.)
D. neglectus Lambert, 1931c:96, pl. 3: fig. 35. [Tunis, North Africa.] (Santonian.)
D. philocrania Lambert, 1933a:16, pl. 2: figs. 8–10. [Madagascar, off East Africa.] (Upper Senonian.)

Lower Cretaceous

D. rahbergensis Jeannet, 1933b:370; 1933c:233, 1934d:4–5, pl. 1: figs. 10–18. [Austria.] (Hauterivian/Neocomian.)

Genus *Discoidea* Agassiz

Upper Cretaceous

D.? dendroides Blanckenhorn, 1925 [1924]:93, pl. 7: fig. 14. [Palestine, Israel.] (Upper Cenomanian.)
D. minima Agassiz var. *inferior* Maczyńska, 1958: 97–98, 113–114, figs. 26a–b, 27, pl. 9: figs. 1–14. [Poland.] (Upper Turonian.)

Lower Cretaceous

D. karakaschi Renngarten, 1926:91–93, 111–112, pl. 8: figs. 10–11, pl. 9: figs. 9–10. [Southern Russia.] (Upper Hauterivian to Lower Barremian.)

Genus *Camerogalerus* Quenstedt

Upper Cretaceous

C. bucaillei Lambert and Jeannet, 1928b:138. [France.] (Cenomanian.)

Genus *Dixonia* Wagner and Durham

Upper Cretaceous

Dixonia Wagner and Durham, 1964:170. Type-species: *Discoidea dixoni* Forbes in Dixon. [Europe.] (Aptian-Turonian.)

Genus *Lanieria* Duncan

Upper Cretaceous

L. uvaldana Cooke, 1953:10, pl. 3: figs. 1–3. [Texas, U.S.A.] (Campanian.)

Suborder ECHINONEINA H. L. Clark

Family ECHINONEIDAE Agassiz and Desor

Genus *Echinoneus* Leske

Recent

E. abruptus H. L. Clark, 1925a:177, pl. 10: figs. 1–3. [Zanzibar, East Africa.]

Pliocene

E. burgeri Grant and Hertlein, 1938b:104–105, pl. 22: figs. 1–3, 6, pl. 23: figs. 6–7. [California, U.S.A.]

Oligocene

E. sanchezi Lambert, 1928c:21, figs. 1–2. [Cuba.]

Upper Oligocene

E. robustus Sánchez Roig, 1953c:140–141, pl. 3: figs. 1–2. [Cuba.]
E. rojasi Sánchez Roig, 1952c:5–6, pl. 3: figs. 4–5. [Cuba.]
E. tenuipetalum Sánchez Roig, 1952c:5, pl. 1: fig. 5. [Cuba.]

Genus *Duperieria* Roman

Middle Eocene

Duperieria Roman, 1968a (Abstract):103; 1968b: 120. [Biarritz (Basses-Pyrenées), southwest France.] (Lutetian.)

Genus *Paleoechinoneus* Grant and Hertlein

Upper Cretaceous

Paleoechinoneus Grant and Hertlein, 1938b:105. Type-species: *P. hannai* Grant and Hertlein, 1938b:105–106, pl. 23: figs. 4–5. [Mexico.]

Family CONULIDAE Lambert

Genus *Conulus* Leske

Cretaceous

C. mullerriedi Lambert, 1935c:368, fig. 1. [Mexico.]
C. praenuntius Carter 1928:58. [Lincolnshire, England.] (Upper to middle Chalk, T.g. zone.)

Upper Cretaceous

C. campaniformis Melikov and Endel'man, 1963: 136–138, figs. 1–2. [North Caucasus, U.S.S.R.] (Lower Maestrichtian.)
C. castaneus (Brongniart) var. *plana* Popiel-Barczyk, 1958:61–62, 77–78, fig. 13, pl. 4: fig. 7, pl. 5: figs. 5–12. [Poland.] (Lower Turonian.)
C. castaneus (Brongniart) var. *rhotomagensis* Agassiz in Popiel-Barczyk, 1958: 59–61, 77, fig. 12, pl. 4: figs. 9–10, pl. 5: figs. 1–4. [Poland.] (Lower Turonian.)
C. chiapasensis Lambert, 1936e:3–4, pl. 1: figs. 5–6. [Mexico.] (Senonian (Campanian).)
C. chiesai Airaghi, 1939:256–257, pl. 11: figs. 1–2. [North Africa.] (Maestrichtian.)
C. cubensis Sánchez Roig, 1949:58–59. [Cuba.]
C. ellipticus (Zareczny) var. *rostrata* Popiel-Barczyk, 1958:58, 77, pl. 4: figs. 1–4. [Poland.] (Lower Turonian.)
C. matesovi Moskvin, 1959:251, pl. 3: figs. 2a–c. [Caucasus, U.S.S.R.]
C. parravanoi Checchia-Rispoli, 1932c:383–386, pl. 1: figs. 1a–b, pl. 2: fig. 4. [North Africa.] (Maestrichtian.)
C. rhotomagensis Agassiz var. *elevatus* Chiriac, 1957: 66–68, pl. 2: figs. 2a–c, 3a–c. [Cuza Voda, Pestera, Roumania.] (Turonian.)
C. sanfilippoi Checchia-Rispoli, 1930a:79–82, pl. 8: figs. 1–6. [Tripolitania, North Africa.] (Maestrichtian.)
C. stephensoni Cooke, 1953:11, pl. 3: figs. 8–13. [Texas, U.S.A.] (Santonian.)
C. subtrotundus (Mantell) var. *conoidea* Popiel-Barczyk, 1958:53–55, 76, fig. 8, pl. 2: figs. 5–8. [Poland.] (Lower Turonian.)
C. subrotundus (Mantell) var. *subglobosa* Popiel-Barczyk, 1958:52–53, 75, fig. 7, pl. 2: figs. 1–4. [Poland.] (Lower Turonian.)
C. tradis Lees, 1928:659–661, fig. 12, pl. 46: figs. 1a–b. [Arabia.] (Senonian (Campanian).)
C. zinai Airaghi, 1939:256, pl. 10: fig. 9. [North Africa.] (Maestrichtian.)

Lower Cretaceous

C. grauensis Currie, 1943:23–25, figs. 4–7, pl. 3: figs. 1–6. [Ethiopia, Northeast Africa.] (Aptian.)

Genus *Pyrina* Desmoulins

Cretaceous

P. barthouxi Lambert, 1931d:192–193, pl. 5: fig. 45. [Egypt.] (Vraconian.)

Upper Cretaceous

P. arabica Clegg, 1933:8, pl. 1: figs. 2a–c. [Arabia.]
P. avilensis Sánchez Roig, 1949:60–61, pl. 42: figs. 9–10. [Cuba.]
P. mexicana Lambert, 1936e:4–5, pl. 1: fig. 1. [Mexico.] (Upper Senonian.)
P. mortenseni Checchia-Rispoli, 1932c:389–391, pl. 2: figs. 1–3, pl. 3: figs. 1–2c. [North Africa.] (Maestrichtian.)
P. ovalis d'Orbigny *plana* Maczyńska, 1962:163–166, 181, figs. 9–12, pl. 5: figs. 1–28. [Poland.] (Cenomanian.)
P. parahybensis Maury, 1930:116–119, pl. 5: fig. 1. [Brazil.] (Campanian.)

Lower Cretaceous

P. hancockensis Whitney and Kellum, 1966:260–261, pl. 2: figs. 1–3. [Texas, U.S.A.] (Trinity Group. (Aptian.)
P whitneyae Ikins, 1940:74–75, pl. 6: figs. 4a–c. [Texas, U.S.A. Cooke (1946:221) placed this species in *Globator*.] (Comanchean.)

Genus *Galeraster* Cotteau

Middle Eocene

G. terkosensis Pinar, 1951:38–40, figs. 3, 5–6, pl. 1b: fig. 1. [Turkey.] (Lutetian.)

Genus *Globator* Agassiz

PALEOCENE

G. ravni Nielsen, 1926:13–15, 22–23, figs. 6–7. [Denmark.] (Danian.)

UPPER CRETACEOUS

G. dainellii Checchia-Rispoli, 1932c:391, pl. 1: figs. 2–2b, pl. 2: figs. 5–5c. [North Africa.] (Maestrichtian.)
G. depsangensis Stefanini, 1928:175–176, pl. 20: figs. 9a–d. [Karakorum, Mongolia.] (Senonian.)
G. vaughani Cooke, 1953:12, pl. 4: figs. 1–4. [Texas, U.S.A.] (Campanian.)

Genus *Pseudopyrina* Lambert

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U445) consider *Pseudopyrina* Lambert a subjective synonym of *Globator* Agassiz.

PALEOCENE

P. subcircularis Ravn, 1927:321–322, fig. 2, pl. 1: figs. 5a–c, 6a–c. [Denmark.] (Danian.)
P. subovalis Ravn, 1927:319–321, fig. 1, pl. 1: figs. 4a–d. [Denmark.] (Danian.)

UPPER CRETACEOUS

P. darderi Lambert, 1935b:362, pl. 41: figs. 5–6. [Spain.] (Upper Campanian.)
P. hourcqi Lambert, 1936c:24, pl. 2: figs. 11–12. [Madagascar, off East Africa.] (Upper Campanian.)
P. minuta Smiser, 1935b:42–43, pl. 4: figs. 3a–e. [Belgium.] (Maestrichtian.)

LOWER CRETACEOUS

P. orchoterenai Lambert, 1935d:370, pl. 16: figs. 15–17. [Mexico.] (Barremian.)

Genus *Pygopyrina* Pomel

UPPER CRETACEOUS

P. pusilla Stefanini, 1928:173–175, pl. 20: figs. 8a–e. [Karakorum, Mongolia.] (Cenomanian.)

Family GALERITIDAE Gray

Genus *Echinoconus* d'Orbigny

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U47) consider *Echinoconus* a synonym of *Galerites* Lamarck.

UPPER CRETACEOUS

E. djiddensis Charles in Lambert and Charles, 1937:378–379, pl. 8: figs. 1–3. [Asia Minor.]

Family Uncertain

Genus *Cluniaster* Jeannet

LOWER CRETACEOUS

Cluniaster Jeannet, 1933b:370; 1933c:233; 1934d:6. Type-species: *C. rhenanus* Jeannet, 1933b:370; 1933c:233; 1934d:6, fig. 2, pl. 1: figs. 3–6. [Austria.] (Hauterivian.)

Suborder CONOCLYPINA Haeckel

Family CONOCLYPIDAE Zittel

Genus *Conoclypus* Agassiz

MIDDLE MIOCENE

C. westraliensis Crespin, 1944:75–76, pl. 1: figs. 1–3. [Australia.]

EOCENE

C. boncevi Gočev, 1933:46–47, pl. 3: figs. 6a–b. [Bulgaria. Gočev referred to *Conoclypeus* Gray (nom. nud.).]
C. dallonii Lambert, 1933d:189–190, fig. 2. [Spain.]

MIDDLE EOCENE

C. besairiei Lambert, 1936a:207, pl. 24: figs. 10–11. [Madagascar, off East Africa. Lambert referred it to *Conoclypeus* Gray (nom. nud.).] (Lutetian.)

Lower Eocene

C. gotshevi Sapundzhieva, 1964:30, 58–59, pl. 14: figs. 2a–c. [Bulgaria.] (Ypresian.)
C. lamberti Villatte, 1966b:869–870, fig. 3, pl. 34: figs. 1, 4. [Spain.] (Ypresian.)
C. pilgrimi Davies, 1926:359–363, pl. 25: figs. 1–6, pl. 26: figs. 1–2. [India. Davies referred it to *Conoclypeus* Gray (nom. nud.).] (Laki Series.)
C. pinfoldi Gill, 1953:843–844, pl. 91: figs. 1–3. [Pakistan. Gill referred it to *Conoclypeus* Gray (nom. nud.).]
C. warthi Davies, 1926:363–367, pl. 26: figs. 3–6. [India. Davies referred it to *Conoclypeus* Gray (nom. nud.).] (Laki Series.)

Cretaceous

C. sanctispiritensis Sánchez Roig, 1949:63, pl. 21: figs. 5–6. [Cuba. Roig referred it to *Conoclypeus* Gray (nom. nud.).]

Family OLIGOPYGIDAE Duncan

Genus *Oligopygus* de Loriol

Eocene

O. alvarezi Lambert and Roig in Sánchez Roig, 1926:82, pl. 11: figs. 3–5. [Cuba.]
O. curasavica Molengraaff, 1929:77–83, pl. 27: figs. 1–5, pl. 28: figs. 1–5. [Curaçao, Dutch West Indies.]
O. hypselus Arnold and H. L. Clark, 1927:28–29, pl. 4: figs. 6–8. [Jamaica.]
O. jamaicensis Arnold and H. L. Clark, 1927:28–29, pl. 4: figs. 9–11. [Jamaica.]
O. ovumserpentis (Guppy) var. *baldryi* Brighton, 1926b:360–366, figs. 1a–g, pl. 26: figs. e–h. [Peru.] (Atascadero Ls.)
O. tuberculatus Sánchez Roig, 1951:56–57, pl. 34: figs. 4–5. [Cuba.]

Upper Eocene

O. camagueyensis Sánchez Roig, 1949:162–163. [Cuba. Brodermann (1949:325) says it is Middle-Upper Eocene.]
O. christi Jeannet, 1928a:10–11, pl. 1: figs. 16–19, pl. 6: fig. 2; 1928b: 220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)
O. circularis Sánchez Roig, 1949:159–160, pl. 29: figs. 2–3. [Cuba. Brodermann (1949:325) says it is Middle-Upper Eocene.]
O. collignoni Lambert, 1931e:291, pl. 17: figs. 5–7. [Cuba. Although Sánchez Roig says it is Lower Oligocene, Brodermann (1949:325) places it in the Middle and Upper Eocene.]
O. colsoni Lambert, 1931e:290–291, pl. 17: figs. 1–4. [Florida, U.S.A.]
O. costuliformis Jeannet, 1928a:9–10, pl. 1: figs. 13–15; 1928b: 220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)
O. cubensis Lambert, 1931e:292. [Cuba. Although Sánchez Roig says it is Lower Oligocene, Brodermann (1949:325) places it in the Middle and Upper Eocene.]
O. elongatus Palmer in Sánchez Roig, 1949:166–167, pl. 30: figs. 4–5. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
O. floridanus Twitchell var. *laevis* Palmer in Sánchez Roig, 1949:166. [Cuba. Brodermann (1949: 325) says it is Middle to Upper Eocene.]
O. herrerai Sánchez Roig, 1953c: 154–155, pl. 6: figs. 6–7, 9. [Cuba.]
O. kugleri Jeannet, 1928a:6–7, pl. 1: figs. 1–7, pl. 6: fig. 1; 1928b:220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)
O. mullerriedi Sánchez Roig, 1949:160–162, pl. 30: figs. 2–3. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
O. nancei Cooke, 1941b:305–306, figs. 1–3. [Venezuela.] (Upper Santa Anita.)
O. pinguis Palmer in Sánchez Roig, 1949:165, pl. 28: figs. 2–3. [Cuba. Brodermann (1949:325) says it is Middle to Upper Eocene.]
O. putnami Israelsky, 1933a:275–276, pl. 18: figs. 1–4. [Mexico.]
O. rotundus Cooke, 1942:9, pl. 2: figs. 1–3. [U.S.A.]
O. sanchezi Lambert, 1931e:292, pl. 17: fig. 8. [Cuba. Although Sánchez Roig says it is Lower Oligocene, Brodermann (1949:325) places it in the Middle and Upper Eocene.]
O. sanjosephi Sánchez Roig, 1953c:155–156, pl. 7: figs. 1–2. [Cuba.]
O. zyndeli Jeannet, 1928a:7–8, pl. 1: figs. 8–9; 1928b:220–221. [Venezuela, Trinité Island.] (Priabonian/Jacksonian.)

Genus *Bonaireaster* Pijpers

Upper Eocene

Bonaireaster Pijpers, 1933:84–86. Type-species: *B. rutteni* Pijpers, 1933:84–86, pl. 1: figs. 1–6. [Dutch West Indies, Netherland Antilles, off Venezuelan coast.]

Genus *Haimea* Michelin

Upper Eocene

H. camagueyana Sánchez Roig, 1949:122–123, pl. 50: figs. 6–7. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]

H. globulosa Sánchez Roig, 1949:124. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]

H. hernandezi Sánchez Roig, 1952c:11, pl. 6: fig. 5. [Cuba.]

H. pusilla Sánchez Roig, 1949:123. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]

H. truncata Sánchez Roig, 1949:124–125, pl. 50: figs. 8–9. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:322) says it is Middle to Upper Eocene.]

Middle Eocene

H. cylindrica Sánchez Roig, 1953c:141, pl. 3: figs. 6–7. [Cuba.]

H. gigantea Sánchez Roig, 1953c:143, pl. 3: fig. 11. [Cuba.]

H. pentagona Sánchez Roig, 1953c:142–143, pl. 3: figs. 8–9. [Cuba.]

H. subcylindrica Sánchez Roig, 1953c:141–142, pl. 3: figs. 4–5. [Cuba.]

Genus *Pauropygus* Arnold and Clark

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U448) consider *Pauropygus* a synonym of *Haimea* Michelin.

Eocene

Pauropygus Arnold and H. L. Clark, 1927:30–32. Type-species: *Echinolampas ovumserpentis* Guppy. [Jamaica.]

Paleogene

P. clarki Lambert, 1931e:294, pl. 17: figs. 10–12. [Cuba.]

Eocene

P. altus Arnold and H. L. Clark, 1927:33, pl. 4: figs. 15–17. [Jamaica.]

P. convexus Arnold and H. L. Clark, 1927:33–34, pl. 4: figs. 18–20. [Jamaica.]

P. cylindricus Arnold and H. L. Clark, 1927:34–35, pl. 4: figs. 12–14. [Jamaica.]

P. elevatus Arnold and H. L. Clark, 1927:35, pl. 5: figs. 1–3. [Jamaica.]

P. latus Arnold and H. L. Clark, 1927:35–36, pl. 5: figs. 4–6. [Jamaica.]

P. meunieri Lambert var. *inflata* Lambert in Lambert and Jacquet, 1936:351, pl. 23: figs. 9–10. [Senegal, West Africa.]

P. meunieri Lambert var. *latipetala* Lambert in Lambert and Jacquet, 1936:351, pl. 23: fig. 11. [Senegal, West Africa.]

P. meunieri Lambert var. *sulcata* Lambert in Lambert and Jacquet, 1936:351, pl. 23: fig. 12. [Senegal, West Africa.]

P. parvipetalus Arnold and H. L. Clark, 1927: 38–39, pl. 5: figs. 13–15. [Jamaica.]

P platypetalus Arnold and H. L. Clark, 1927:39, pl. 5: figs. 16–18. [Jamaica.]

P. pyramidoides Arnold and H. L. Clark, 1927: 39–40, pl. 5: figs. 19–21. [Jamaica.]

P. rotundus Arnold and H. L. Clark, 1927:40–41, pl. 6: figs. 1–3. [Jamaica.]

P. rugosus Arnold and H. L. Clark, 1927:41, pl. 6: figs. 4–6. [Jamaica.]

P. stenopetalus Arnold and H. L. Clark, 1927: 41–42, pl. 6: figs. 7–9. [Jamaica.]

Upper Eocene

P. stefaninii Lambert, 1931e:293–294, fig. 1, pl. 17: fig. 9. [Île Saint-Barthélemy, West Indies.]

Suborder Uncertain

Family Uncertain

Genus *Amblypygus* L. Agassiz

Oligocene

A. checchiai Socin, 1942:52–53. [Somaliland, East Africa.]

Upper Eocene

A. douvillei Lambert in Sánchez Roig, 1949: 126–127, pl. 36: fig. 4. [Cuba.]

Middle Eocene

A. depressus Sánchez Roig, 1953c:144–145, pl. 3: fig. 10. [Cuba.]

Genus *Echinogalerus* König

Upper Cretaceous

E. bochotnicensis Kongiel, 1950:316–317, 323–324, pl. 2: figs. 1–4. [Poland.] (Upper Maestrichtian.)

Genus *Rhopostoma* Cooke

Paleocene

Rhopostoma Cooke, 1959:26. Type-species: *Ananchytes cruciferus* Morton. [New Jersey, U.S.A.]

Order CLYPEASTEROIDA A. Agassiz

Suborder CLYPEASTERINA A. Agassiz

Family CLYPEASTERIDAE L. Agassiz

Genus *Clypeaster* Lamarck

Recent

C. chesheri Serafy, 1970:663–674, figs. 1, 2c, 2d, 3–7. [Caribbean-Gulf of Mexico.]

C. cyclopilus H. L. Clark, 1941:118–120, pl. 10: fig. 1. [Cuba.]

C. elongatus H. L. Clark, 1948:308–309, pl. 48: fig. 30, pl. 49: fig. 31, pl. 50: fig. 33. [Galápagos Islands, Eastern Pacific Ocean.]

C. euclastus H. L. Clark, 1941:120–121, pl. 10: fig. 2. [Cuba.]

C. eurychorius H. L. Clark, 1925c:10–11, pl. 3. [Off Natal Coast, South Africa.]

C. eurypetalus H. L. Clark, 1925d:99, pl. 11: figs. a–c. [Pacific Ocean.]

C. micropetalus H. L. Clark, 1925b:317–318, pl. 33. [Angola, southwest Africa.]

C. miniaceus H. L. Clark, 1925a:150–151, pl. 9: fig. 5. [Macclesfield Bank, Indian Ocean.]

C. oliveirai Krau, 1952:703–705, fig. 1, pls. 1–7. [Tropical Atlantic.]

C. oshimensis Ikeda, 1935a:103–104, pl. 7: figs. 1–5. [Japan.]

C. subdepressus (Gray) *lobulatus* Bernasconi, 1956: 35–36, fig. 2. [Brazil.]

Pleistocene

C. canimarensis Palmer in Sánchez Roig, 1949:78. [Cuba.]

C. japonicus Döderlein *alta* Hayasaka and Morishita, P., 1947:44–45, pl. 2: figs. 2a–b. [China.] (Riukiu Ls.)

C. japonicus Döderlein *plana* Hayasaka and Morishita, P., 1947:44, pl. 4: figs. 3a–b. [Hsiaokangshan, Kaohsiunghsien, Taiwan, China.] (Riukiu Ls.)

Tertiary

C. eurychorus Arnold and H. L. Clark, 1934:141, pl. 1: figs. 1–2. [Jamaica.]

Lower Tertiary

C. chiapasensis Mullerried, 1951:211–216, figs. 1–3. [Mexico.]

Pliocene

C. blumenthali Lambert and Jeannet, 1928a:219. [Malaysia.]

C. brevipetalus Martin in Jeannet and Martin, 1937:246–247, fig. 29. [Java, Indonesia.]

C. malumbangensis Israelsky, 1933b:301–302, pl. 1: fig. 1. [Philippine Islands, South Pacific Ocean.]
C. mombasanus Currie, 1938:85–86, pl. 8: figs. 9a–c. [Kenya, east Africa.]
C. okinawa Cooke, 1954:47, pl. 11: figs. 1–2. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)

Upper Pliocene

C. marquerensis Durham, 1950:41, pl. 43: figs. 2–3. [California, U.S.A.]

Middle Pliocene

C. revellei Durham, 1950:41, pl. 43: figs. 1, 7. [California, U.S.A.]

Miocene

C. abruptus Sánchez Roig, 1926:49–50, pl. 8: fig. 2, pl. 9: fig. 1. [Cuba.]
C. aciculatus Checchia-Rispoli, 1925:31–33, fig. 10, pl. 11: fig. 5. [Southern Italy.]
C. aegyptiacus (Wright) Michelin var. *syrticus* Desio, 1934:197–198, fig. 11, pl. 19: fig. 1, pl. 20: fig. 1. [Libya.]
C. aichinoi Checchia-Rispoli, 1925:30–31, fig. 9, pl. 8: figs. 2, 2a–b, pl. 14: fig. 3. [Southern Italy.]
C. annandalei Koehler *caviventer* Deraniyagala, 1961:154, pl. 5: figs. 5–6. [Ceylon.]
C. borgesi Lambert, 1934:247–248, pl. 5: fig. 1. [Angola, southwest Africa.]
C. cermenatii Checchia-Rispoli, 1925:29–30, fig. 8, pl. 5: fig. 1, pl. 14: figs. 1, 1a–d. [Southern Italy.]
C. cerullii Checchia-Rispoli, 1925:40–42, fig. 15, pl. 1: fig. 3, pl. 5: figs. 3, 3a–c. [Southern Italy.]
C. cipollae Checchia-Rispoli, 1925:53–54, fig. 20, pl. 1: figs. 4, 4a, pl. 11: figs. 1, 1a–b, 2–4. [Southern Italy.]
C. concavus Cotteau *puertoricanus* Gordon, 1963: 635–636, fig. 2a, pl. 81: figs. 5–6. [Puerto Rico, West Indies.] (Cibao marl.)
C. cortesei Checchia-Rispoli, 1925:49–50, pl. 1: figs. 2–2a, pl. 20: figs. 1–3. [Southern Italy.]
C. defiorei Checchia-Rispoli, 1940a:13–14, fig. 7, pl. 1: figs. 2–2a. [Italy.]
C. epianthus Meznerics, 1941:87–88, pl. 2: fig. 1, pl. 3: fig. 2. [Hungary.]
C. franchii Checchia-Rispoli, 1925:43–44, fig. 17, pl. 18: figs. 1, 1a–b. [Southern Italy.]
C. henjamensis Clegg, 1933:25–26, pl. 3: figs. 2a–c, 3a. [Persian Gulf.]
C. julii Roman, 1952:408, footnote 2. [Antigua Island, British West Indies. For *Anomalanthus gregoryi* Lambert, 1915, not *Clypeaster gregoryi* Lambert, 1913.]
C. kemencensis Meznerics, 1941:88, pl. 2: fig. 3, pl. 3: fig. 6. [Hungary.]
C. kugleri Jeannet, 1928b:220. [Venezuela.]
C. lamegoi Marchesini Santos, 1958:14–15, 20–21, pl. 3: figs. 1–3. [Brazil.]
C. libycus Desio, 1929:321–322, fig. 33, pl. 34: figs. 1a–b. [Oasis of Giarabùb, Libya.]
C. maulwarensis Clegg, 1933:23–24, pl. 3: figs. 1a–c. [Persian Gulf.]
C. minihagali Deraniyagala, 1956:4, pl. 3: figs. 1–2. [Ceylon, Indian Ocean.]
C. mutellensis de Loriol var. *italica* Checchia-Rispoli, 1940a:4–5, fig. 1, pl. 2: figs. 1–1a. [Italy.]
C. paulinoi Marchesini Santos, 1958:15–16, 21, pl. 4: figs. 1–6. [Brazil.]
C. portentosus Desmoulin var. *turriculata* Checchia-Rispoli, 1940a:9–11, fig. 5, pl. 1: fig. 1. [Italy.]
C. pulchellus Checchia-Rispoli, 1925:23–24, fig. 6, pl. 13: figs. 3, 3a–b. [Southern Italy.]
C. saipanicus Cooke, 1957:362, pl. 119: figs. 14–17. [Mariana Island, West Pacific Ocean.]
C. tyrrenicus Checchia-Rispoli, 1925:27–29, fig. 7, pl. 8: figs. 1, 1a–b, pl. 14: fig. 2, pl. 22: figs. 1–1a. [Southern Italy.]
C. zamboninii Checchia-Rispoli, 1925:39–40, fig. 14, pl. 3: figs. 3, 4, 4a, 5, pl. 4: figs. 3–4, pl. 23: figs. 4–4a. [Southern Italy.]

Upper Miocene

C. crassus Kier, 1963:30–32, fig. 24, pl. 11: figs. 1–3, table 1. [Florida, U.S.A.] (Tamiami Fm.)
C. romani Kier, 1964a:610. [For *C. crassus* Kier, 1963, not L. Agassiz, 1840.]

Middle Miocene

C. cremai Checchia-Rispoli, 1929b:26–29, fig. 1, pl. 2: figs. 1–6. [Cyrenaica, Libya.]
C. egregius Peron and Gauthier var. *dallonii* Lambert, 1938a:279–283, fig. 1. [North Africa.]

C. garganicus Checchia-Rispoli, 1938:46–48, pl. 2: figs. 1–3. [Monte Gargano, Italy.]
C. insignis Seguenza var. *distincta* Imbesi Smedile, 1958:42–43, pl. 21: fig. 5, pl. 22: figs. 2–2a. [Southern Italy.] (Tortonian?)
C. insignis Seguenza var. *robusta* Imbesi Smedile, 1958:24–25, pl. 8: figs. 2–2a. [Southern Italy.] (Helvetian.)
C. kugleri Jeannet, 1928a:19, pl. 2. figs. 4–6. [Venezuela.]
C. millosevichi Checchia-Rispoli, 1923:2–5, figs. 1–3, pl. 1: figs. 1, 1a–b. [Sardinia.]
C. novaresei Checchia-Rispoli, 1925:15–17, fig. 1, pl. 9: figs. 1, 1a–c, pl. 23: figs. 1–1a. [Southern Italy.] (Helvetian.)
C. patae Imbesi Smedile, 1958:27–28, pl. 8: figs. 3, 3a–b, pl. 9: figs. 1, 1a–b. [Southern Italy.] (Helvetian.)
C. reidii Wright var. *campanulata* Imbesi Smedile, 1958:39–40, pl. 16: fig. 3. [Southern Italy.] (Tortonian.)
C. reidii Wright var. *notha* Imbesi Smedile, 1958: 31–32, pl. 11: figs. 2, 2a–b. [Southern Italy.] (Helvetian.)
C. tariccoi Checchia-Rispoli, 1923:5–7, fig. 4, pl. 1: figs. 2, 2a–b. [Sardinia.]
C. tavanii Imbesi Smedile, 1958:41–42, pl. 20: figs. 2, 2a–c, 3, 3a, pl. 22: figs. 1–1a. [Southern Italy.] (Tortonian.)
C. trevisani Imbesi Smedile, 1958:40–41, pl. 17: figs. 2, 2a–b, pl. 19: figs. 1, 1a–b. [Southern Italy.]
C. tumescens Imbesi Smedile, 1958:30–31, pl. 9: figs. 2, 2a–c, pl. 11: figs. 1, 1a–b. [Southern Italy.] (Helvetian.)

Lower Miocene

C. elevatus Sánchez Roig, 1949:83–84, pl. 8: figs. 1–3, pl. 10: fig. 1. [Cuba.] (Güines Fm.)
C. herrerae Lambert in Sánchez Roig, 1926:49, pl. 8: fig. 1. [Cuba.]
C. latirostris Agassiz var. *prolata* Venzo, 1935:227, pl. 18: fig. 6. [Italy.] (Lower Aquitanian.)
C. palmeri Sánchez Roig, 1949:85. [Cuba. Although Sánchez Roig says it is Miocene, Brodermann (1949:319) places it in the Lower Miocene.]
C. pinarensis Lambert and Sánchez Roig, 1934:22–24, 2 figs. [Cuba. Although Lambert considers it Oligocene, Brodermann (1949:319) says it is Lower Miocene.]
C. vasatensis Lambert, 1928b:94–95; 1928e:15, pl. 6: figs. 1–2. [France.] (Langhian/Burdigalian.)

Oligocene/Miocene

C. dalpiazi Socin, 1942:50–51. [Somaliland, East Africa.]
C. moronensis Sánchez Roig, 1951:41–42, pl. 23: fig. 1, pl. 24: fig. 1. [Cuba.]

Oligocene

C. brodermanni Sánchez Roig, 1949:74–75, pl. 9: figs. 1–3. [Cuba. Brodermann (1949:319) says it is Upper Oligocene.]
C. marinanus Jackson, 1937:231, pl. 12 :fig. 2, pl. 13: fig. 1. [Mexico.]
C. ovatus Palmer in Sánchez Roig, 1949:73–74. [Cuba. Brodermann (1949:319) says it is Upper Oligocene.]
C. topilanus Jackson, 1937:232, pl. 13: figs. 2–3. [Mexico.]

Upper Oligocene

C. densus Sánchez Roig, 1949:90–91, pl. 11: figs. 1–3. [Cuba.]
C. guillermi Sánchez Roig, 1952e:119–120, pl. 7: fig. 2. [Cuba.]
C. guadalupense Sánchez Roig, 1952e:121–122, pl. 6: fig. 2, pl. 10: fig. 2. [Cuba.]
C. hernandezi Sánchez Roig, 1949:94, pl. 50: figs. 1–2. [Cuba.]
C. maribonensis Sánchez Roig, 1949:77, pl. 9: figs. 6–7. [Cuba. Although Sánchez Roig says it is Pleistocene, Brodermann (1949:319) places it in the Upper Oligocene.]
C. pileus Israelsky, 1924:138, pl. 2: fig. 2, pl. 3: fig. 2. [Mexico.]
C. planus Sánchez Roig, 1949:93, pl. 9: figs. 4–5. [Cuba.]
C. polygonalis Sánchez Roig, 1949:84–85, pl. 7: figs. 1–2. [Cuba. Although Sánchez Roig says it is Lower Miocene, Brodermann (1949:320) says it is from the Upper Oligocene.]
C. profundus Sánchez Roig, 1949:91–92, pl. 6: figs. 1–3. [Cuba.]
C. sanchezi Lambert in Sánchez Roig, 1926:48–49, pl. 6: fig. 1, pl. 7: figs. 1–2. [Cuba.]

C. sandovali Sánchez Roig, 1949:89–90, pl. 13: figs. 1–2. [Cuba.]
C. sanrafaelensis Palmer in Sánchez Roig, 1949:75. [Cuba.]
C. tenuicoronae Palmer in Sánchez Roig, 1949:87, pl. 14: fig. 3. [Cuba. Although Sánchez Roig says it is Middle Oligocene, Brodermann (1949:320) considers it Upper Oligocene.]

Lower Oligocene

C. lopezriosi Sánchez Roig, 1953c:139, pl. 1: fig. 6. [Cuba.]

Upper Eocene

C. calzadai Via and Padreny, 1970:94–96, fig. 3b. [Can Vilet, Castelltersol, province of Barcelona, Spain.] (Biarritzian-Bartonian.)
C. moianensis Via and Padreny, 1970:90–93, fig. 1. [Moianés, province of Barcelona, Spain.] (Biarritzian-Bartonian.)

Genus *Anomalanthus* Bell

In the *Treatise,* Durham (Durham et al., 1966: U462) considers *Anomalanthus* a synonym of *Clypeaster* Lamarck.

Oligocene

A. elevatus Sánchez Roig, 1952e:138–139, pl. 9: figs. 1–2. [Cuba.]
A. guadalupense Sánchez Roig, 1952e:136–137, pl. 7: fig. 1, pl. 15: fig. 2. [Cuba.]
A. rojasi Sánchez Roig, 1952e:138, pl. 14: figs. 1–2, pl. 16: fig. 1. [Cuba.]

Upper Oligocene

A. gigas Sánchez Roig, 1953a:54, pls. 1–2. [Cuba.]
A. oligocenicus Sánchez Roig, 1949:95, pl. 9: figs. 1–2. [Cuba.]
A. zanoletti Sánchez Roig, 1952e:137, pl. 12: figs. 1–2, pl. 13: fig. 1. [Cuba.]

Genus *Bunactus* Pomel

Durham (Durham et al., 1966:U462), in the *Treatise,* considers *Bunactus* an objective synonym of *Clypeaster.*

Lower Miocene

B. sanchezi Lambert *altus* Sánchez Roig, 1952e:127, pl. 3. [Cuba.]
B. sanchezi Lambert *gigantea* Sánchez Roig, 1952e: 127–128, pl. 2. [Cuba.]

Oligocene

B. aguayoi Sánchez Roig, 1952e:126, pl. 1: fig. 1. [Cuba.]

Upper Oligocene

B. santanae Sánchez Roig, 1952e:126–127, pl. 1: fig. 2. [Cuba.]

Genus *Coronanthus* Lambert

In the *Treatise,* Durham (Durham et al., 1966: U463) considers *Coronanthus* a subjective synonym of *Clypeaster.*

Recent

Clypeaster (Coronanthus) pateriformis Mortensen, 1948a:99. [Philippine Islands.]

Oligocene

C. (C.) artilesi Sánchez Roig, 1952c:4–5, pl. 1: fig. 4. [Cuba.]
C. conceptionis Sánchez Roig, 1952e:128–129, pl. 8: figs. 1–2. [Cuba.]

Genus *Herrerasia* Sánchez Roig

Durham (Durham et al., 1966:U463) in the *Treatise* considers *Herrerasia* a subjective synonym of *Clypeaster.*

Lower Miocene

Herrerasia Sánchez Roig, 1952e:135. Type-species: *Clypeaster profundus* Sánchez Roig. [Cuba.]

Genus *Hesperaster* H. L. Clark

RECENT

Hesperaster H. L. Clark, 1938:411. Type-species: *H. arachnoides* H. L. Clark, 1938:411–413, pl. 27: fig. 2. [Western Australia.]

QUATERNARY

H. crassus H. L. Clark, 1938:413–414, fig. 35A. [Western Australia.]

Genus *Orthanthus* Mortensen

In the *Treatise,* Durham (Durham et al., 1966: U463) considers *Orthanthus* a subjective synonym of *Clypeaster.*

RECENT

Clypeaster (*Orthanthus*) *aloysioi* Brito, 1959:1–4, fig. 1, pls. 1–2. [Brazil.]

C. (*O.*) *durandi* Cherbonnier, 1959b:370–372, figs. 8a–e, 9a–d. [French Guiana, South America.]

Genus *Paratinanthus* Lambert and Thiéry

In the *Treatise,* Durham (Durham et al., 1966: U463) considers *Paratinanthus* a subjective synonym of *Clypeaster.*

OLIGOCENE

P. lamberti Sánchez Roig, 1952e:132–133, pl. 16: fig. 2. [Cuba.]

Genus *Platyclypeina* Lambert and Thiéry

In the *Treatise* Durham (Durham et al., 1966: U463) considers *Platyclypeina* a synonym of *Clypeaster* Lamarck.

MIOCENE

Clypeaster (*Platyclypeina*) *subcrustulum* Desio, 1929:324–325, fig. 34, pl. 34: fig. 2. [Oasis of Giarabùb, Libya.]

Genus *Rhaphidoclypus* A. Agassiz

In the *Treatise,* Durham (Durham et al., 1966: U462) considers *Rhaphidoclypus* A. Agassiz a subjective synonym of *Clypeaster* Lamarck.

RECENT

Clypeaster (*Rhaphidoclypus*) *fervens* Koehler var. *hiradicus* Mortensen, 1948d:86–87, pl. 22: figs. 8, 10–11, pl. 65: fig. 12. [Japan.]

C. (*R.*) *reticulatus* (Linnaeus) var. *sundaicus* Mortensen, 1948d:77–78, pl. 17: figs. 3–10. [Indo-Pacific.]

OLIGOCENE

C. (*R.*) *armadilloensis* Sánchez Roig, 1953c:139–140, pl. 2: figs. 1–2. [Cuba.]

UPPER OLIGOCENE

R. costulatus Sánchez Roig, 1952e:130, pl. 13: fig. 2. [Cuba.]

R. rojasi Sánchez Roig, 1952e:130–131, pl. 5: fig. 2. [Cuba.]

Genus *Rojasaster* Sánchez Roig

In the *Treatise,* Durham (Durham et al., 1966: U463) considers *Rojasaster* a subjective synonym of *Clypeaster.*

UPPER OLIGOCENE

Rojasaster Sánchez Roig, 1952e:133–134. Type-species: *Clypeaster hernandezi* Sánchez Roig. [Cuba.]

R. camagueyanus Sánchez Roig, 1952e:134–135, pl. 4: figs. 1–2, pl. 6: fig. 1. [Cuba.]

Genus *Stolonoclypus* A. Agassiz

In the *Treatise,* Durham (Durham et al., 1966: U462) considers *Stolonoclypus* a subjective synonym of *Clypeaster* Lamarck.

RECENT

Clypeaster (*Stolonoclypus*) *lutkeni* Mortensen, 1948d:121–123, figs. 67–68, pl. 25: figs. 3–5, pl. 27:

fig. 3, pl. 68: figs. 21–22; 1948e:69. [West Indies.]
C. (S.) nummus Mortensen, 1948d:127, pl. 14: figs. 4–6, pl. 16: fig. 3, pl. 68: fig. 12; 1948e:69. [Tahiti, Society Islands, South Pacific Ocean.]

MIOCENE

S. ichnusae Checchia-Rispoli, 1928:12–17, fig. 3, pl. 2: fig. 4. [Sardinia.]
S. incertus Checchia-Rispoli, 1928:19–20, pl. 2: fig. 3. [Sardinia.]
S. pusillus Checchia-Rispoli, 1928:8–9, fig. 2, pl. 1: figs. 1–1a, pl. 3: fig. 6. [Sardinia.]

Genus *Tholeopelta* Lambert and Thiéry

In the *Treatise,* Durham (Durham et al., 1966: U463) considers *Tholeopelta* a subjective synonym of *Clypeaster.*

OLIGOCENE

T. herrerae Sánchez Roig, 1951:40–41. [Cuba.]

Genus *Zanolettia* Sánchez Roig

In the *Treatise,* Durham (Durham et al., 1966: U463) considers *Zanolettia* a subjective synonym of *Clypeaster* Lamarck.

OLIGOCENE

Zanolettia Sánchez Roig, 1951:39. Type-species: *Z. zanolettii* Sánchez Roig, 1951:40, pl. 23: figs. 2–3. [Cuba.]

UPPER OLIGOCENE

Z. gigantea Sánchez Roig, 1952c:3–4, pl. 12: figs. 1–2. [Cuba.]

Family ARACHNOIDIDAE Duncan

Subfamily ARACHNOIDINAE Duncan

Genus *Arachnoides* Leske

RECENT

A. tenuis H. L. Clark, 1938:415–417, pl. 27: figs. 3–4. [Western Australia.]

Genus *Fellaster* Durham

RECENT/PLIOCENE

Fellaster Durham, 1955:125–127, figs. 1f, 8i, 26f, 29b. Type-species: *Arachnoides zelandiae* Gray. [New Zealand.]

Subfamily AMMOTROPHINAE Durham

Ammotrophinae Durham, 1955:127. Type-genus: *Ammotrophus* H. L. Clark. [South Australia and Tasmania.]

Genus *Ammotrophus* H. L. Clark

RECENT

Ammotrophus H. L. Clark, 1928:471. Type-species: *A. cyclius* H. L. Clark, 1928:471–474, fig. 140. [South Australia.]
A. platyterus H. L. Clark, 1928:474–475, fig. 141. [South Australia.]

Genus *Scutellinoides* Durham

MIOCENE

Scutellinoides Durham, 1955: 128–129. Type-species: *Scutellina patella* Tate. [Australia.]

Suborder LAGANINA Mortensen

Genus *Pentedium* Kier

MIDDLE EOCENE

Pentedium Kier, 1967:989–990. Type-species: *P. curator* Kier, 1967: 990–993, figs. 1–3, pl. 129: figs. 3–4, pl. 130: figs. 2–7. [Georgia, U.S.A. Family is not known for this genus.]

Family FIBULARIIDAE Gray

Genus *Fibularia* Lamarck

Because of confusion concerning the type-species of this genus, some of these species probably belong to *Echinocyamus.*

Recent

F. craniolaris H. L. Clark, 1928:477. [South Australia.]
F. plateia H. L. Clark, 1928:477–478, fig. 142. [South Australia.]

Tertiary

F. rhedeni Lambert and Jeannet, 1928a:219. [Malaysia.]

Upper Tertiary

F. scrobiculata Lambert, 1931c:85, fig. 5, pl. 3: figs. 27–29. [Algiers, North Africa.]

Miocene

F. dubarensis Kier, 1957b:870–871, fig. 7c–e, pl. 104: figs. 9–11. [British Somaliland, East Africa.] (Dubar series.)
F. excavata H. L. Clark, 1945:320–321, pl. 42: figs. d–f. [Fiji, South Pacific Ocean.]
F. sandalina Szörényi, 1953:13, 60, pl. 5: figs. 6–6a. [Ukraine.]

Middle Miocene

F. sadeki Lambert, 1931d:209, pl. 5: figs. 25–30. [Egypt.] (Helvetian.)
F. sulcata Lambert, 1928b:92, fig. 8. [France.] (Helvetian.)

Lower Miocene

F. junior Lambert, 1928b:91–92, fig. 7. [France.] (Langhian/Burdigalian.)

Oligocene

F. africana Checchia-Rispoli, 1929a:4–6, pl. 1: figs. 1–4. [Cyrenaica, Libya.]
F. cimex Lambert, 1938a:278–279, pl. 19: figs. 9–11. [Algeria, North Africa.]
F. cyrenaica Checchia-Rispoli, 1929a:6–8, pl. 1: figs. 5–8. [Cyrenaica, Libya.]

Eocene

F. abrardi Lambert, 1924b:98, fig. 1. [France.]

Upper Eocene

F. alabamensis Cooke, 1959:31, pl. 9: figs. 20–22. [Alabama, U.S.A.] (Probably Moodys Branch Fm.)
F. minuta Palmer in Sánchez Roig, 1949:64–65. [Cuba.]

Middle Eocene

F. barbadosensis Kier, 1966b:4–7, figs. 1(pt.), 2(pt.), 3(pt.), 4, 5a, 6a(pt.), 8, 9, pl. 1: figs. 1–3. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)
F. farallonensis Cooke, 1961:16, pl. 4: figs. 1–6. [Trinidad, Caribbean Ocean.]

Cenozoic/Cainozoic?

F. jacksoni Hawkins in Arnold and H. L. Clark, 1927:27–28, 76–77, pl. 4: figs. 3–5, pl. 22: figs. 1–3. [Jamaica, West Indies.]

Genus *Cyamidia* Lambert and Thiéry

Eocene

C. paucipora Brunnschweiler, 1962:162–164, fig. 1. [Western Australia.] (Cuisian/Lutetian.)

Genus *Echinocyamus* van Phelsum

Because of confusion concerning the type-species of this genus, some of these species may belong to *Fibularia*.

Recent

E. apicatus Mortensen, 1948d:195–196, figs. 98, 114, pl. 46: figs. 40–45; 1948e:71. [Australia.]
E. convergens Mortensen, 1948d:191–192, fig. 102b, pl. 46: figs. 56–58; 1948e:72. [Providence Island, West Indian Ocean.]
E. crenulatus H. L. Clark, 1925a:164–165, pl. 9: figs. 3–4. [Gambia, northwest Africa.]

E. grandis H. L. Clark, 1925a:165–166, pl. 9: figs. 6–8. [Gambia, northwest Africa and Seychelle Islands, Indian Ocean.]
E. planissimus H. L. Clark, 1938:422–423, pl. 27: figs. 5–8. [Western Australia.]
E. terminalis Grant and Hertlein, 1938b:48–49, figs. 5, 6a–b. [Mexico.]
E. scaber de Meijere var. *subconicus* Mortensen, 1948d:188, pl. 46: figs. 34–36; 1948e:71. [Malaysia, Kei Island.]

Pleistocene

E. prostratus Nisiyama, 1968:50–52, figs. 31a–d. [Southern Japan, Ryukyu Island.]

Miocene

E. chipolanus Cooke, 1942:29–30, pl. 1: figs. 9–11. [U.S.A.] (Chipola Fm.)
E. lipparinii Airaghi, 1939:283–284, pl. 12: figs. 20–23. [North Africa.]
E. parviporus Kier, 1964b:1124–1125, figs. 331c–e, pl. 302: figs. 11–15. [Marshall Islands, West Pacific Ocean.]
E. subpiriformis Cottreau, 1933:544, pl. 27: figs. 3–3b. [France.]
E. woodi Currie, 1930:172, pl. 16: fig. 1. [East Africa.]

Oligocene

E. schoelleri Castex, 1947:31. [France.]

Upper Oligocene

E. avilensis Lambert, 1931e:298–299, fig. 2. [Cuba. Although Sánchez Roig says it is Tertiary, Brodermann (1949:321) places it in Upper Oligocene of Cuba.]

Eocene

E. jacqueti Lambert, 1936a:349–350, pl. 21: figs. 16–18. [Senegal, West Africa.]
E. jeanneti Lambert, 1931d:200, fig. 11, pl. 5: figs. 31–33. [Egypt.]
E. rostratus Lambert, 1929:193, figs. 1–2. [Madagascar, off east coast of Africa.]

Upper Eocene

E. macneili Cooke, 1959:32–33, pl. 9: figs. 6–8. [Alabama, U.S.A.] (Probably Moodys Branch Fm.)
E. petalus Kier, 1964b:1121–1124, fig. 330, pl. 302: figs. 1–7. [Marshall Islands, West Pacific Ocean.]

Middle Eocene

E. bisexus Kier, 1968b:12–21, figs. 11–23, pl. 3: figs. 1–6, pl. 4: figs. 1–2. [Georgia, U.S.A.]
E. caribbeanensis Kier, 1966b:7–8, figs. 10 (part), 11(part), 12a–d, pl. 1: figs. 4–5. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)
E. basseae Lambert, 1936c:30, pl. 3: fig. 26. [Madagascar, off East Africa.] (Lower Lutetian.)
E. maropiensis Lambert, 1936c:30, pl. 3: figs. 23–25. [Madagascar, off East Africa.] (Lower Lutetian.)

Lower Eocene

E. cyphostomus Lambert in Lambert and Jacquet, 1936:349, pl. 21: figs. 12–15. [Senegal, West Africa.]
E. cyphostomus Lambert var. *sulcata* Lambert in Lambert and Jacquet, 1936:349, pl. 21: fig. 15. [Senegal, West Africa.]
E. planus Lambert, 1933a:32–33, pl. 2: figs. 13–15. [Madagascar, off East Africa.]

Upper Cretaceous

E. kamrupensis Das Gupta, 1929:26, pl. 2: fig. 3. [India.] (Upper Senonian.)

Genus *Eoscutum* Lambert

Eocene

Scutellina (*Eoscutum*) *orientalis* Vialov and Manouilenko, 1939:151–153, 167–169, pl. 1: figs. 1, 2a–d, 3–4, 6. [U.S.S.R.] (Alaï stage.)
S. (E.) orientalis Vialov and Manouilenko var. *elongata* Vialov and Manouilenko, 1939:160–161, 174–175, pl. 2: figs. 4a–d. [U.S.S.R.] (Alaï stage.)
S. (E.) orientalis Vialov and Manouilenko var. *kalizkyi* Vialov and Manouilenko, 1939:155–156, 170–171, pl. 1: fig. 5. [U.S.S.R.] (Alaï stage.)

S. (E.) orientalis Vialov and Manouilenko var. *nalivkini* Vialov and Manouilenko, 1939:156–157, 171, pl. 2: figs. 5a–c. [U.S.S.R.] (Alaï stage.)

S. (E.) orientalis Vialov and Manouilenko var. *pentagona* Vialov and Manouilenko, 1939:158–160, 172–174, pl. 2: figs. 2a–c, 3. [U.S.S.R.] (Alaï stage.)

S. (E.) orientalis Vialov and Manouilenko var. *rotula* Vialov and Manouilenko, 1939:157–158, 171–172, pl. 1: figs. 7a–c, 8, pl. 2: figs. 1a–c. [U.S.S.R.] (Alaï stage.)

Genus *Fibulariella* Mortensen

RECENT

Fibularia (*Fibulariella*) Mortensen, 1948d:219; 1948e:72. Type-species: *Fibularia acuta* Yoshiwara. [Indo-Pacific Ocean.]

F. (F.) angulipora Mortensen, 1948d:224–225, fig. 121, pl. 46: figs. 1–4, 12–14; 1948e:72. [Gulf of Siam.]

F. (F.) oblonga Gray var. *ambonensis* Mortensen, 1948d:223–224, pl. 46: figs. 10–11. [Malaysia and south, west, and north Australia.]

Genus *Lenicyamidia* Brunnschweiler

EOCENE

Lenicyamidia Brunnschweiler, 1962:165. Type-species: *L. compta* Brunnschweiler, 1962:165–169, figs. 2–3. [Western Australia.] (Cuisian/Lutetian.)

Genus *Leniechinus* Kier

MIDDLE EOCENE

Leniechinus Kier, 1968b:4–5. Type-species: *L. hericki* Kier, 1968b:5–12, figs. 1–3, 5–10, pl. 1: figs. 3–4, pl. 2: figs. 1–5. [Georgia, U.S.A.]

Genus *Lenita* Desor

EOCENE

L. israelskyi Grant and Hertlein, 1938b:49, pl. 8: figs. 6–7, 9. [U.S.A.]

Genus *Porpitella* Pomel

MIDDLE EOCENE

P. micra H. L. Clark, 1937a:248–249, figs. 1–3. [Alabama, U.S.A.] (Claiborne Fm.)

P. paleocaenica Villatte, 1966a:518–519, pl. 1: figs. 1–3. [France.]

Genus *Scutellina* L. Agassiz

EOCENE

S. balcanica Gočev, 1933:47, pl. 7: figs. 13–17. [Bulgaria.]

S. conica Gočev, 1933:48, pl. 7: figs. 18a–d. [Bulgaria.]

S. transsylvanica Barbu and Dragoș, 1957:647–649, pl. 2: figs. 3, 6, 8, 9, pl. 3: figs. 10–14, 18–19. [Rumania.] (Upper Lutetian.)

S. transsylvanica Barbu and Dragoș var. *oblonga* Barbu and Dragoș, 1957:650–653, pl. 2: figs. 2, 5. [Rumania.] (Upper Lutetian.)

S. transsylvanica Barbu and Dragoș var. *orbiculata* Barbu and Dragoș, 1957: 649–650, pl. 2: figs. 4, 7, pl. 3: figs. 15, 17, 20–21. [Rumania.] (Upper Lutetian.)

Genus *Tarphypygus* Arnold and H. L. Clark

EOCENE

Tarphypygus Arnold and H. L. Clark, 1927:42. Type-species: *T. ellipticus* Arnold and H. L. Clark, 1927:43, pl. 6: figs. 10–12. [Jamaica. West Indies.]

T. notabilis Arnold and H. L. Clark, 1927:43–44, pl. 6: figs. 13–15. [Jamaica, West Indies.]

UPPER EOCENE

T. palmeri Sánchez Roig, 1949:170. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:328) considers it Middle to Upper Eocene.]

T. sulcatus Sánchez Roig, 1949:170–171, pl. 50: fig. 5. [Cuba. Although Sánchez Roig says it is Upper Oligocene, Brodermann (1949:328) considers it Middle to Upper Eocene.]

Genus *Togocyamus* Oppenheim

Paleocene

T. alloiteaui Roman and Gorodiski, 1959:51–52, pl. 3: figs. 20–23. [Senegal.]

Family LAGANIDAE A. Agassiz

Genus *Laganum* Link

Neogene

L. boschi Martin in Jeannet and Martin, 1937: 253–254, figs. 35, 36a–b. [Dutch East Indies, West Pacific Ocean.]

Recent

L. boninense Mortensen, 1948d:328–330, fig. 162b, pl. 55: figs. 1–3, pl. 70: fig. 12; 1948e:70. [Bonin Island (Japan), West Pacific Ocean.]

L. centrale H. L. Clark, 1925a:155–156, pl. 9: figs. 1–2. [Tongatabu Reefs, Tonga Archipelago, South Pacific Ocean.]

L. depressum L. Agassiz var. *alienum* Mortensen, 1948d:322–323, pl. 53: figs. 31–32; 1948e:69. [Indo-Pacific.]

L. depressum L. Agassiz var. *tenue* Mortensen, 1948d:319–322, pl. 53: figs. 3–4, 9; 1948e:69. [Indo-Pacific.]

L. dickersoni Israelsky var. *keiense* Mortensen, 1948d:327–328, fig. 199c, pl. 53: figs. 2–5, pl. 70: figs. 11, 13; 1948e:70. [Malaysia.]

L. dyscritum H. L. Clark, 1932:216–217, pl. 1: figs. 5–9. [Low Isles, Tuamotu Archipelago, South Pacific Ocean.]

L. fudsiyama Döderlein var. *africanum* Mortensen, 1948d: 342–344, pl. 55: fig. 10; 1948e:70. [Natal, eastern Union of South Africa.]

L. fudsiyama Döderlein var. *indicum* Mortensen, 1948b:8; 1948d:342, pl. 55: figs. 5–6, 11–13; 1948e:70. [Mauritius, Indian Ocean.]

L. joubini Koehler var. *formosum* Mortensen, 1948d:331, pl. 55: fig. 4; 1948e:70. [Mauritius, Indian Ocean.]

L. mirable H. L. Clark, 1925a:158–159, pl. 9: figs. 9–10. [Madras, southeast India.]

Pliocene

L. dickersoni Israelsky, 1933b:302–303, pl. 2: figs. 1–9. [Philippine Islands, South Pacific Ocean.]

L. equaepetala Israelsky, 1933b:303–304, pl. 2: figs. 10–12. [Philippine Islands.]

L. fudsiyama Döderlein *untenensis* Cooke, 1954:48, pl. 9: figs. 7–11. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)

Miocene

L. pachycraspedum Nisiyama, 1968:73–74, pl. 15: figs. 9–10, 17. [Japan.] (Shirahama (Susaki) Fm.)

Lower Miocene

L. fudsiyama Döderlein *takunagai* Otuka, 1938: 18–19, pl. 2: figs. 22–23. [Japan.] (Siroyama Ss.)

Oligocene

L. leptum Jackson, 1937:233, pl. 13: fig. 4. [Mexico.]

Upper Eocene

L. cubanum Weisbord, 1934:48–50, pl. 4: figs. 8–10. [Cuba.]

L. lamberti Sánchez Roig, 1949:108–109, pl. 16: fig. 2. [Cuba. Although Sánchez Roig says it is Upper Oligocene, Brodermann (1949:323) considers it Middle to Upper Eocene.]

L. ocalanum Cooke, 1942:23–24, pl. 2: figs. 7–10. [U.S.A.]

L. santanae Sánchez Roig, 1949:109–110, pl. 15: figs. 1–2. [Cuba. Although Sánchez Roig says it is Upper Oligocene, Brodermann (1949:323) considers it Middle to Upper Eocene.]

Genus *Jacksonaster* Lambert and Thiéry

Pliocene

J. gauthieri Lambert, 1931d:214–215, pl. 6: figs. 2–4. [Red Sea.]

J. herklotzi Jeannet in Jeannet and Martin, 1937: 262–263, figs. 40a–c, 41–42. [Java, Indonesia.]

Oligocene

J. acunai Lambert in Sánchez Roig, 1926:59–60, pl. 13: figs. 6–7, 9. [Cuba.]
J. acunai Lambert var. *nuevitasensis* Lambert in Sánchez Roig, 1926:60, pl. 13: fig. 9. [Cuba.]
J. sanchezi Lambert in Sánchez Roig, 1926:61, pl. 13: figs. 4–5, 8. [Cuba.]
J. torrei Lambert in Sánchez Roig, 1926:61–64, pl. 12: figs. 1–3. [Cuba.]

Upper Eocene

J. depressus Sánchez Roig, 1949:108, pl. 16: figs. 6–7. [Cuba.]
J. remediensis Sánchez Roig, 1949:106–107, pl. 16: fig. 5. [Cuba.]

Middle Eocene

J. sandiegensis Sánchez Roig, 1949:107–108, pl. 16: figs. 3–4. [Cuba.]

Genus *Peronella* Gray

Recent

P. japonica Mortensen, 1948d:277–280, figs. 177c, 178c, 180b, 184a, 187a, pl. 49: figs. 1, 6–12; 1948e:71. [Japan.]
P. keiensis Mortensen, 1948d:291–292, figs. 163e, 182c, 187e, pl. 49: figs. 2–5, pl. 72: figs. 7–8, 14; 1948e:71. [Malaysia.]
P. lesueuri (Valenciennes) var. *gadiana* Mortensen, 1948d:270–272, fig. 177b, pl. 50: figs. 4–5, 9–10; 1948e:70. [Malaysia.]
P. oblonga Mortensen, 1948d:299–300, fig. 188c, pl. 51: figs. 33–34; 1948e:71. [India.]
P. orbicularis (Leske) var. *concava* Mortensen, 1948d:289–291, fig. 170c, pl. 51: figs. 26–28; 1948e:71. [Malaysia.]

Pliocene

P. kamimura Cooke, 1954:47–48, pl. 11: figs. 5–6. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)
P. merrilli Israelsky, 1933b:304–305, pl. 2: figs. 17–19. [Philippine Islands.]
P. motobu Cooke, 1954:48, pl. 10: figs. 1–2. [Okinawa, Japan.] (Naha Ls. in lower part of Ryukyu Ls.)
P. ragayana Israelsky, 1933b:305, pl. 2: figs. 13–16. [Philippine Islands.]

Eocene

P. kloosi Molengraaff, 1929:76–77, pl. 26: figs. 3–4. [Curaçao, Dutch West Indies.]
P. lamberti Mortensen, 1927b:73, pl. 4: figs. 4–7; 1948d:256. [Spain. New name for *Echinodiscus rostratus* Lambert, 1927b.]
P. martini Molengraaff, 1929:73–76, pl. 25: figs. 2–3, pl. 26: figs. 1–2. [Curaçao, Dutch West Indies.]

Upper Eocene

P. caribbeana Weisbord, 1934:52–53, pl. 5: figs. 7–9. [Cuba.]
P. cubae Weisbord, 1934:53–54, pl. 5: figs. 4–6. [Cuba.]
P. quinquenodulata Weisbord, 1934:50–52, pl. 5: figs. 1–3. [Cuba.]

Genus *Peronellites* Hayasaka and Morishita

Miocene

Peronella (Peronellites) Hayasaka and Morishita, A., 1947:101. Type-species: *Peronella (Peronellites) ovalis* Hayasaka and Morishita, A., 1947: 101–103, pl. 8: figs. 3, 5. [China.]

Genus *Rumphia* Desor

Upper Oligocene

R. elegans Sánchez Roig, 1949:100–101, pl. 16: fig. 1. [Cuba.]

Genus *Sismondia* Desor

Middle Miocene

S. naganoensis Morishita, 1953:218–219, fig. 2, pl. 1: figs. 1–2. [Japan.] (Lower part of Aoki Fm.)

Lower Miocene

S. javana Gerth *ladronensis* Nisiyama, 1968:59–61, pl. 13: figs. 6, 8–10, 13–16, pl. 14: figs. 3–8. [Saipan Island, Mariana Islands, Western Pacific.] (Donny-Tagpochau Fm., Aquitanian.)

Oligocene

S. convexa Nisiyama, 1937:41–45, figs. 1–13. [Bonin Islands, Japan.]

Eocene

S. crustula Hawkins in Arnold and H. L. Clark, 1927:28, 78–79, pl. 22: figs. 4–5. [Jamaica, West Indies.]

Lower Eocene

S. barabirensis Lambert, 1931d:200–201, pl. 5: figs. 34–36. [Egypt.]

Family NEOLAGANIDAE Durham

Neolaganidae Durham, 1954:680. Type-genus: *Neolaganum* Durham. [Gulf of Mexico.]

Genus *Neolaganum* Durham

Upper Eocene

Neolaganum Durham, 1954:680–681. Type-species: *Laganum archerensis* Twitchell. [Gulf of Mexico.]
N. durhami Cooke, 1959:52, pl. 21: figs. 5–7. [Florida, U.S.A.] (Inglis and Ocala Ls.)

Genus *Cubanaster* Sánchez Roig

Upper Eocene

Cubanaster Sánchez Roig, 1952a:3. Type-species: *Jacksonaster torrei* Lambert in Sánchez Roig, 1926. [Cuba.]
C. acunai Lambert *gigas* Sánchez Roig, 1952a:5, pl. 3: fig. 1. [Cuba.]
C. camagueyensis Sánchez Roig, 1952a:4, pl. 2: figs. 3–4. [Cuba.]
C. herrerai Sánchez Roig, 1952a:6–7, pl. 1: fig. 7, pl. 3: fig. 2. [Cuba.]
C. planipetalum Sánchez Roig, 1952a:7–8, pl. 1: figs. 2, 5. [Cuba.]
C. santanae Sánchez Roig, 1952a:8, pl. 1: figs. 3–4. [Cuba.]

Genus *Durhamella* Kier

Middle Eocene

Durhamella Kier, 1968b:23–24. Type-species: *Laganum ocalanum* Cooke. [Georgia, U.S.A.]

Genus *Neorumphia* Durham

Upper Oligocene

Neorumphia Durham, 1954:681–682. Type-species: *Rumphia elegans* Sánchez Roig. [Cuba.]

Genus *Sanchezella* Durham

Eocene

Sanchezella Durham, 1954:682. Type-species: *Jacksonaster sanchezi* Lambert. [West Indies.]

Genus *Weisbordella* Durham

Upper Eocene

Weisbordella Durham, 1954:682. Type-species: *Peronella caribbeana* Weisbord. [Gulf of Mexico.]

Genus *Wythella* Durham

Upper Eocene

Wythella Durham, 1954:682–684. Type-species: *Laganum eldridgei* Twitchell. [Gulf of Mexico.]

Suborder SCUTELLINA Haeckel

Family SCUTELLIDAE Gray

Genus *Scutella* Lamarck

Miocene

S. almerai Lambert *parva* Szörényi, 1953:19, 67, pl. 1: figs. 6, 6a–b. [Ukraine.]

S. checchiae Desio, 1929:305–307, fig. 28, pl. 33: figs. 1a–b, pl. 38: figs. 2a–b. [Oasis of Giarabùb, Libya.]
S. checchiae Desio var. *occidentalis* Desio, 1934:193, fig. 8, pl. 17: fig. 1. [Libya.]
S. eichwaldi Szörényi, 1953:19–20, 67–68, pl. 1: fig. 5. [Ukraine.]
S. floridana Cooke, 1942:19, pl. 4: figs. 9–10. [U.S.A.] (Hawthorn Fm.)
S. isidis Fourtau var. *bardiensis* Desio, 1929:304–305, pl. 39: figs. 1a–b. [Oasis of Giarabùb, Libya.] (Vindobonian.)
S. robecchibricchettii Desio, 1929:309–311, fig. 30, pl. 38: figs. 1a–b. [Oasis of Giarabùb, Libya.]
S. stefaninii Desio, 1929:307–309, fig. 29, pl. 40: figs. 3a–b. [Oasis of Giarabùb, Libya.]
S. stefaninii Desio var. *syrtica* Desio, 1934:194–195, fig. 10, pl. 18: figs. 1a–b. [Libya.]
S. szoerenyiae Sándor, 1969:255, pl. 1: figs. 1–2, pl. 2: fig. 1. [Hungary.]

Middle Miocene

S. media Schaffer, 1962:151–153, figs. 1d–e, pl. 17: figs. 2–3. [Austria.] (Upper Helvetian.)
S. montagnai Mirigliano, 1957:9–12, fig. 1, pl. 1: figs. 1–2. [Italy.]
S. multiconcava Schaffer, 1962:154–156, fig. 10, pl. 17: figs. 4–5, pl. 18: figs. 1–5. [Austria.] (Lower Tortonian.)
S. styriaca Schaffer, 1962:153–154, fig. 9, pl. 19: fig. 1. [Austria.] (Middle Tortonian.)
S. vindobonensis Laube *planata* Kókay in Somos and Kókay, 1960:341–342, 346, pl. 16: figs. 1–2, pl. 17: fig. 3. [Hungary.]
S. vindobonensis Laube *secunda* Schaffer, 1962:157–159, fig. 11, pl. 19: figs. 2, 4. [Austria.] (Middle to upper Tortonian.)

Lower Miocene

S. hobarthi Kühn, 1936:40–43, figs. 2–3, pl. 1: figs. 1–3. [Austria.] (Burdigalian/Aquitanian.)
S. pseudosubrotundaeformis Venzo, 1933:208–209; 1935:223–225, pl. 18: fig. 4. [Italy. New name for *S. subrotundaeformis* Oppenheim, 1903, not Schauroth, 1865.] (Chattian to Aquitanian.)
S. scurellensis Venzo, 1933:209; 1935:226–227, pl. 18: figs. 1–2, pl. 19: fig. 4. [Italy.]

Paleogene

S. niponica Nagao, 1928:16, pl. 1: figs. 5–6. [Japan.]

Oligocene

S. chiesai Airaghi, 1939:268, pl. 12: figs. 3–6. [North Africa.]
S. habanensis Sánchez Roig, 1949:113–114, pl. 33: fig. 2. [Cuba. Brodermann (1949:328) says it is Lower to Upper Oligocene.]

Upper Eocene

S. camagueyana Weisbord, 1934:56–57, pl. 5: figs. 13–14. [Cuba.]
S. cubae Weisbord, 1934:55–56, pl. 5: figs. 10–12. [Cuba.]

Genus *Parascutella* Durham

Lower Miocene

Parascutella Durham, 1953a:349–350. Type-species: *Scutella leognanensis* Lambert. [France.] (Burdigalian.)

Family PROTOSCUTELLIDAE Durham

Protoscutellidae Durham, 1955:153. Type-genus: *Protoscutella* Stefanini. [Gulf of Mexico and the Atlantic coast of North America.]

Genus *Protoscutella* Stefanini

Middle Eocene

P. pentagonium Cooke, 1942:18, pl. 2: figs. 4–6. [U.S.A.]

Genus *Periarchus* Conrad

Upper Eocene

P. kewi Cooke, 1942:16, pl. 1: figs. 12–14. [U.S.A.]
P. lyelli Conrad *floridanus* Fischer, 1951:60–64, figs. 4–5, pl. 1: figs. 1–4. [U.S.A.]
P. rutriformis Paulson, 1958:362–365, figs. 5–6, 8. [North Carolina, U.S.A.]

Family EOSCUTELLIDAE Durham

Eoscutellidae Durham, 1955:156. Type-genus: *Eoscutella* Grant and Hertlein. [California and Oregon, U.S.A.]

Genus *Eoscutella* Grant and Hertlein

Upper Eocene

Eoscutella Grant and Hertlein, 1938b:54. Type-species: *Scutella coosensis* Kew. [North America.]

Family DENDRASTERIDAE Lambert

Genus *Dendraster* L. Agassiz

Recent

D. excentricus (Eschscholtz) var. *elongatus* H. L. Clark, 1935:122–123. [California, U.S.A. (off the Coronados Islands).]

D. laevis H. L. Clark, 1948:312–313, pl. 50: figs. 34–36. [California, U.S.A., and northwest Mexico.]

D. mexicanus H. L. Clark, 1948:313, 317, pl. 51: figs. 37–39. [Lower California, U.S.A.]

D. rugosus H. L. Clark, 1948:318–319, pl. 52: figs. 40–41. [Lower California Bay, San Sebastian Vizcaino, U.S.A.]

Quaternary

D. vizcainoensis Grant and Hertlein, 1938b:90, pl. 8: figs. 1–3. [California, U.S.A.]

Upper Pleistocene

D. vizcainoensis Grant and Hertlein *similaris* Grant and Hertlein, 1938b: 90–91, pl. 27: figs. 1–2, pl. 28: fig. 8. [California, U.S.A.] (Palos Verdes Fm.)

Pliocene

D. gibbsii Rémond var. *mirus* Stewart in Woodring, Stewart, and Richards, 1940: 66, 80, pl. 44: figs. 4–5. [California, U.S.A.] (Siphonalia zone, Etchegoin Fm.)

Upper Pliocene

D. casseli Grant and Hertlein, 1938b: 81–82, pl. 1: figs. 1–3, pl. 30: fig. 3. [California, U.S.A.]

Middle Pliocene

D. granti Durham, 1950:41–42, pl. 47: figs. 3–12. [California, U.S.A.]

Lower Pliocene

D. elsmerensis Durham, 1949:50–62, fig. 2f, pl. 1: figs. 2–4, 6. [U.S.A.]

Genus *Orchoporus* Lambert and Thiéry

In the *Treatise,* Durham (Durham et al., 1966: U481) considers *Orchoporus* a synonym of *Merriamaster* Lambert.

Middle Miocene

O. lamberti Grant and Hertlein, 1938b:52, pl. 9: figs. 3, 6. [California, U.S.A.]

Genus *Scaphechinus* A. Agassiz

Miocene

Echinarachnius (Scaphechinus) raritalis Nisiyama, 1951:3–5, figs. 1–3. [Japan.] (Taya Fm.)

Genus *Anorthoscutum* Lambert and Thiéry

In the *Treatise,* Durham (Durham et al., 1966: U481) considers *Anorthoscutum* a synonym of *Scutellaster* Cragin.

Upper Pliocene

A. oregonense Clark *quaylei* Grant and Hertlein, 1938b:93, pl. 21: fig. 13, pl. 30: fig. 11. [California, U.S.A. For *Dendraster (Calaster) oregonensis gibbosus* Kew.] (Upper Wildcat Fm.)

Family ECHINARACHNIIDAE Lambert

Genus *Echinarachnius* Leske

In the *Treatise,* Durham (Durham et al., 1966: U482) considers *Echinarachnius* Leske a subjective synonym of *Arachnoides* Leske.

Recent

E. brevis Ikeda, 1936a:1231–1233, figs. 1a–c. [Japan.]
E. griseus Mortensen, 1927a:195–200, figs. 1a, 2, pl. 1: figs. 1–4. [Japan.]

Neogene

Echinarachnius (Echinarachnius) laganolithinus Nisiyama, 1940–1941:830–832, fig. 12, pl. 44: fig. 21, pl. 45: figs. 1–9. [Japan.] (Sibikawa Ss. beds.)
E. (E.) microthyroides Nisiyama, 1940–1941:828–829, fig. 11, pl. 44: figs. 17–20. [Japan.] (Suenomatuyama beds.)

Lower Pleistocene

E. parma (Lamarck) var. *sakhalinensis* Argamakova, 1934:25, 40, pl. 1: fig. 3. [U.S.S.R.]

Pliocene

E. alaskensis Durham, 1957:628–629, pl. 72: figs. 6, 8. [Alaska, U.S.A.]
E. humilis Nisiyama, 1968:100–101, pl. 16: fig. 8. [Japan.] (Chôkai Fm.)

Middle Pliocene

E. naganoensis Morishita, 1953:220–222, fig. 3a, pl. 1: fig. 4. [Japan.] (Upper part of Ogawa Fm.)

Miocene

E. gabbii Rémond *kleinpelli* Grant and Hertlein, 1938b:60. [U.S.A. New name for *Scutella gabbi* var. *tenuis* Kew, 1915.] (Lower San Pablo Grp.)
E. rumoensis Hayasaka and Shibata, 1952:82–85, figs. 1a–c. [Japan.] (Tôgeshita Fm.)
E. subtumidus Nisiyama and Hashimoto, 1950:39–42, figs. 1–3. [Japan.]

Upper Miocene

E. kewi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 2: fig. 3 and plate explanation. [California, U.S.A.]

Middle Miocene

E. blancoensis (Kew) var. *etheringtoni* Weaver, 1942:6, pl. 3: figs. 7–8. [U.S.A.] (Astoria Fm.)
E. minoensis Morishita, 1955:229–231, pl. 11: figs. 5–7. [Japan. New name for *Sismondia naganoensis* Morishita, 1953, invalidated.]

Genus *Allaster* Nisiyama

Oligocene/Miocene

Allaster Nisiyama, 1968:127–128. Type-species: *A. rotundatus* Nisiyama, 1968:128–129, pl. 17: fig. 5, pl. 18: figs. 1, 4. [Japan]. (Takinoue Fm.)

Genus *Astrodapsis* Conrad

Upper Pliocene

A. israelskyi Jordon and Hertlein, 1926:424–425, pl. 27: figs. 4, 6. [Cedros Island, off lower California, U.S.A.]
A. kewi Jordan and Hertlein, 1926:425–426, pl. 27: figs. 2–3. [Cedros Island, off lower California, U.S.A.]

Pliocene/Miocene

A. nipponicus Nisiyama, 1948:602–604, pl. 88: figs. 1–6, 8, 10–13. [Japan.]

Upper Miocene

A. altus Kew var. *antiquus* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 15 and plate explanation. [California, U.S.A.] (Mid-middle Cierbo.)
A. armstrongi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 14 and plate explanation. [California, U.S.A.] (Mid-middle Cierbo.)
A. auguri Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 4 and plate explanation. [California, U.S.A.] (Early upper Briones.)

A. blakei Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 7 and plate explanation. [California, U.S.A.] (Early lower Neroly.)

A. brewerianus Rémond var. *bitterensis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 9 and plate explanation. [California, U.S.A.] (Upper Briones; doubtful lower and early middle Cierbo.)

A. brewerianus Rémond var. *emergens* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 11 and plate explanation. [California, U.S.A.] (Early lower Cierbo.)

A. brewerianus Rémond var. *junior* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 18 and plate explanation. [California, U.S.A.] (Late middle Cierbo.)

A. cierboensis Kew *branchensis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: figs. 12–12a and plate explanation. [California, U.S.A.] (Cierbo; late upper Briones.)

A. clarki Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 1 and plate explanation. [California, U.S.A.] (Late upper Cierbo.)

A. cutleri Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 1 and plate explanation. [California, U.S.A.] (Early upper Cierbo.)

A. davisi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 3 and plate explanation. [California, U.S.A.] (Late upper Cierbo.)

A. desaixi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 5 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. diabloensis Kew var. *superior* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 16 and plate explanation. [California, U.S.A.] (Late middle Cierbo.)

A. elevatum Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 12 1/2 and plate explanation. [California, U.S.A.] (Early lower Cierbo.)

A. englishi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 7 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. galei Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 8 and plate explanation. [California, U.S.A.] (Upper Briones to lower to middle Cierbo.)

A. goudkoffi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 6 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. gregerseni Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 4 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. gregerseni Grant and Eaton var. *fragilis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 2 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. gregerseni Grant and Eaton var. *varians* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 8 and plate explanation. [California, U.S.A.] (Middle and late upper Cierbo.)

A. hertleini Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 9: fig. 2 and plate explanation. [California, U.S.A.] (Later lower Neroly.)

A. hootsi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: figs. 11a–b and plate explanation [California, U.S.A.] (Early lower Cierbo.)

A. isabellae Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 2 and plate explanation. [California, U.S.A.] (Late upper Cierbo.)

A. johnsoni Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 3 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. johnsoni Grant and Eaton *simile* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 3a and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. major Kew var. *parens* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 7: fig. 6 and plate explanation. [California, U.S.A.] (Early lower Neroly.)

A. ovalis Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 17 and plate explanation. [California, U.S.A.] (Late middle Cierbo.)

A. perrini Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 8: fig. 6 and plate explanation. [California, U.S.A.] (Middle to lower Neroly.)

A. quaylei Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 6: fig. 9 and plate explanation. [California, U.S.A.] (Middle to upper Cierbo.)

A. reedi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: figs. 13–13a and plate explanation. [California, U.S.A.] (Mid-middle Cierbo.)

A. salinasensis Richards, 1935:61–63, pl. 7: figs. 2a–c. [California U.S.A.]

A. schencki Grant and Hertlein, 1938b:76, fig. 8. [California, U.S.A.]

A. schencki Grant and Hertlein var. *mirandaensis* Grant and Eaton in Eaton, Grant, and Allen,

1941: pl. 9: figs. 4–4a and plate explanation. [California, U.S.A.] (Early upper Neroly.)

A. schucherti Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 6 and plate explanation. [California, U.S.A.] (Upper Briones.)

A. schucherti Grant and Eaton var. *affinis* Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 5: fig. 10 and plate explanation. [California, U.S.A.] (Late upper Briones.)

A. woodringi Grant and Eaton in Eaton, Grant, and Allen, 1941: pl. 8: fig. 1 and plate explanation. [California, U.S.A.] (Early lower Neroly.)

Genus *Kewia* Nisiyama

MIOCENE/OLIGOCENE

K. minuta Shibata, 1960:308–310, figs. 3–4, pl. 35: figs. 3–9. [Japan.]

MIDDLE MIOCENE

K. ugoensis Shibata, 1960:307–308, figs. 1–2, pl. 35: figs. 1–2. [Japan.]

OLIGOCENE

Echinarachnius (Kewia) elongatus Nisiyama, 1940–1941:824–826, fig. 9, pl. 44: figs. 13–16. [Japan.] (Japanese Saghalien.)

E. (K.) parvus Nisiyama, 1940–1941:822–823, pl. 44: figs. 7–12. [Japan.] (Japanese Saghalien.)

Genus *Nipponaster* Durham

PLIOCENE/MIOCENE

Nipponaster Durham, 1952:844–846, fig. 1d. Type-species: *Astrodapsis nipponicus* Nisiyama. [Japan.]

Genus *Pseudoastrodapsis* Durham

In the *Treatise,* Durham (Durham et al., 1966: U482) considers *Pseudoastrodapsis* Durham an objective synonym of *Nipponaster* Durham.

PLIOCENE/MIOCENE

Pseudoastrodapsis Durham, 1953b:756. Type-species: *Astrodapsis nipponicus* Nisiyama. [Japan. New name for *Nipponaster* Durham, 1952, not *Niponaster* Lambert, 1920.]

LOWER PLIOCENE

P. nitidiusculus Nisiyama, 1968:126–127, pl. 16: figs. 15–17, pl. 17: figs. 2–3, 6. [Japan.]

MIOCENE

P. intermedius Nisiyama, 1968:125–126, pl. 16: figs. 9–12, 14. [Japan.] (Kawabata Fm.)

Genus *Remondella* Durham

LOWER PLIOCENE

Remondella Durham, 1955:168–169, figs. 14e, 36a, 36c. Type-species: *Clypeaster gabbii* Rémond. [California, U.S.A.]

Genus *Tenuirachnius* Durham

UPPER MIOCENE

Tenuirachnius Durham, 1955:169, fig. 36b. Type-species: *Scutella gabbii* Rémond *tenuis* Kew = *Echinarachnius gabbii* (Rémond) *kleinpelli* Grant and Hertlein. Not *E. tenuis* Yoshiwara. [California, U.S.A.]

Genus *Vaquerosella* Durham

LOWER MIOCENE

Vaquerosella Durham, 1955:166–167, figs. 16c, 21e, 21f, 36d, 36e. Type-species: *Scutella andersoni* Twitchell. [Baja California, U.S.A.]

Family MONOPHORASTERIDAE Lahille

Genus *Karlaster* Santos

MIOCENE

Karlaster Marchesini Santos, 1958:16–18, 21–22. Type-species: *Karlaster pirabensis* Marchesini Santos, 1958:18–19, pl. 5: figs. 1–3. [Brazil.]

Family MELLITIDAE Stefanini

Genus *Mellita* L. Agassiz

Recent

M. grantii Mortensen, 1948d:428–429, fig. 244c, pl. 15: fig. 3, pl. 59: figs. 4–5; 1948e:72. [Gulf of California, U.S.A./Mexico.]

M. lata H. L. Clark, 1940a:437–439, pl. 60: fig. 1, pl. 61: fig. 1, pl. 62: figs. 1–2. [Eastern Pacific Ocean.]

M. latiambulacra H. L. Clark, 1940a:439–442, pl. 62: figs. 3–6. [Caribbean Ocean.]

M. notabilis H. L. Clark, 1947:77–78. [West coast of Central America.]

M. platensis Bernasconi, 1947:117–118. [Argentina.]

M. quinquiesperforata (Leske) *tenuis* H. L. Clark, 1940a:442–444, pl. 60: fig. 2, pl. 61: fig. 2. [Florida, U.S.A.]

Upper Pleistocene

M. kanakoffi Durham, 1961b:5–7, fig. 1d, pl. 2: fig. 2. [California, U.S.A.]

Upper Miocene

M. aclinensis Kier, 1963:40–45, figs. 36–41, pl. 15: figs. 1–3, tables 3–4. [Florida, U.S.A.] (Tamiami Fm.)

Genus *Encope* L. Agassiz

Recent

E. cocosi H. L. Clark, 1948:330, pl. 56: figs. 48–49. [Cocos Island, Costa Rica.]

E. ecuadorensis H. L. Clark, 1948:333–334, pl. 59: figs. 54–55. [Ecuador.]

E. fragilis H. L. Clark, 1948:335–336, pl. 60: figs. 56–57. [Mexico, Petatlan Bay to Tenacatita Bay.]

E. insularis H. L. Clark, 1948:336–337, pl. 61: figs. 58–59. [Mexico, Socorro and Clarion Islands.] (Revilla Gigedo Gp.)

E. irregularis H. L. Clark, 1948:332–333, pl. 58: figs. 52–53. [Colombia to Costa Rica.]

E. laevis H. L. Clark, 1948:327–328, pl. 54: fig. 45, pl. 55: fig. 46. [Nicaragua.]

E. micropora L. Agassiz var. *borealis* A. H. Clark, 1946:6–7, pl. 4. [Pacific Ocean.]

E. micropora L. Agassiz *galapagensis* A. H. Clark, 1946:7. [Pacific Ocean.]

E. perspectiva L. Agassiz *jonesi* A. H. Clark, 1946: 7–8. [Pacific Ocean.]

E. wetmorei A. H. Clark, 1946:2–5, pls. 1–2 (upper fig.) [Pacific Ocean.]

Recent/Pleistocene

E. arcensis Durham, 1950:44, pl. 37: fig. 8, pl. 40: figs. 5–6. [California, U.S.A.]

Pleistocene

E. grandis Agassiz *inezana* Durham, 1950:45–46, pl. 37: fig. 10, pl. 38: fig. 4. [California, U.S.A.]

Pleistocene/Late Miocene

E. michelini Agassiz *imperforata* Kier, 1963:33–36, figs. 25–30, pl. 5: fig. 1, pl. 6: figs. 3–4, table 2. [Florida, U.S.A.]

Tertiary

E. homala Arnold and H. L. Clark, 1934:142–143, pl. 2: fig. 1. [Manchester Parish, Jamaica.]

Pliocene

E. macrophora Ravenel *tamiamiensis* Mansfield, 1932:48, pl. 17: fig. 8. [U.S.A.]

E. secoensis Cooke, 1961:18–19, pl. 8: fig. 1, pl. 9: figs. 1–2. [Venezuela.]

Upper Pliocene

E. carmenensis Durham, 1950:44–45, pl. 37: fig. 5, pl. 40: fig. 4, pl. 44: fig. 1. [California, U.S.A.]

E. shepherdi Durham, 1950:48, pl. 37: fig. 11, pl. 38: fig. 6, pl. 40: fig. 2. [California, U.S.A.]

Middle Pliocene

E. angelensis Durham, 1950:43–44, pl. 37: fig. 15, pl. 42: figs. 1, 3–4, 10. [California, U.S.A.]

Lower Pliocene

E. chaneyi Durham, 1950:45, pl. 37: fig. 7, pl. 43: fig. 6. [California, U.S.A.]
E. loretoensis Durham, 1950:46, pl. 37: fig. 4, pl. 41: figs. 1, 4–5. [California, U.S.A.]
E. scrippsae Durham, 1950:47–48, pl. 37: fig. 14, pl. 41: figs. 2, 3, 6, pl. 42: figs. 2, 5–8. [California, U.S.A.]
E. sverdrupi Durham, 1950:48–49, pl. 37: fig. 6, pl. 39: figs. 4, 6. [California, U.S.A.]

Miocene

E. kugleri Jeannet, 1928b:220. [Venezuela?]
E. peruviana Brighton, 1926a:61–69, figs. 1–7, pls. 3–5. [Peru.]
E. vonderschmitti Jeannet, 1928b:220. [Locality?]
E. wiedenmayeri Jeannet, 1928b:220. [Venezuela.]

Middle Miocene

E. kugleri Jeannet, 1928a:23–26, figs. 4–6, pl. 3: figs. 5–6. [Venezuela.] (Serie de Capadare.)
E. vonderschmitti Jeannet, 1928a:26–28, figs. 7–8, pl. 3: figs. 7–8. [Venezuela.] (Serie de Capadare, couches d'Ojo de Agua.)
E. wiedenmayeri Jeannet, 1928a:20–23, fig. 3, pl. 3: figs. 1–4. [Venezuela.] (Couches d'Ojo de Agua, base des Calcaires de Capadare.)

Genus *Mellitella* Duncan

Pliocene/Miocene

Encope (*Melitella* [sic]) *falconensis* Cooke, 1961: 19–20, pl. 8: figs. 2–4. [Venezuela.]

Family ASTRICLYPEIDAE Stefanini

Genus *Astriclypeus* Verrill

Miocene

A. manni Verrill *minoensis* Morishita, 1952:113, pl. 11: fig. 1. [Japan.] (Shukunohora Ss.)

Lower Miocene

A. manni Verrill *ambigenus* Nisiyama, 1935:140–145, figs. 3a–c, pl. 8: figs. 1–3. [Japan.]

Genus *Amphiope* L. Agassiz

Miocene

A. bioculata Desmoulin var. *bentivegnae* Desio, 1934:191, fig. 7, pl. 16: figs. 1a–b. [Libya.]
A. bioculata Desmoulins var. *pelatensis* Fabre, 1933: 33–36. [France.]

Middle Miocene

A. dallonii Lambert, 1931c:88–89, pl. 3: fig. 30. [Algiers, North Africa.] (Helvetian.)
A. labriei Lambert, 1928b:113–114; 1928e: pl. 8: fig. 3. [France.] (Helvetian.)
A. nuragica Comaschi Caria, 1956:186, pl. 1. [Sardinia, Mediterranean Sea.] (Helvetian.)

Genus *Echinodiscus* Leske

Recent

E. auritus Leske var. *siamensis* Mortensen, 1948d: 404–406, pl. 56: figs. 1–3, pl. 71: figs. 1, 4–5, 10–11, 13–14, 17, 22; 1948e:72. [Indo-Pacific.]

Miocene/Oligocene

E. transiens Nisiyama, 1968:133–134, pl. 17: fig. 1. [Japan.] (Yamaga Fm.)

Lower Tertiary

E. ginauensis Clegg, 1933:10–11, pl. 1: figs. 4a–4b. [Persian Gulf.]

Paleogene

E. chikuzenensis Nagao, 1928:17, pl. 1: figs. 15–17. [Japan.]

Genus *Tretodiscus* Pomel

In the *Treatise,* Durham (Durham et al., 1966: U489) considers *Tretodiscus* a synonym of *Echinodiscus* Leske.

Miocene

T. fuchsi (Fourtau) var. *giarabubensis* Desio, 1929: 315–316, fig. 31, pl. 38: figs. 3–4. [Oasis of Giarabùb, Libya.]

Family ABERTELLIDAE Durham

Abertellidae Durham, 1955:177. Type-genus: *Abertella* Durham. [Caribbean and Atlantic coast of North America.]

Genus *Abertella* Durham

MIOCENE

Abertella Durham, 1953a:350–351. Type-species: *Scutella aberti* Conrad. [U.S.A.]

MIDDLE MIOCENE

A. kewi Durham, 1957:627–628, fig. 2, pl. 72: figs. 1, 7. [Mexico.]

LOWER MIOCENE

A. palmeri Durham, 1957:626–627, pl. 72: figs. 4, 9–10. [Guatemala.]

Family SCUTASTERIDAE Durham

Scutasteridae Durham, 1955:178. Type-genus: *Scutaster* Pack. [California, U.S.A.]

Genus *Scutaster* Pack

LOWER MIOCENE

S. vaquerosensis Loel and Corey, 1932:179–180, pl. 5: figs. 1a–b, 3. [California, U.S.A.] (Vaqueros Fm.)

S. vaquerosensis Loel and Corey var. *kewi* Loel and Corey, 1932:180, pl. 5: fig. 4. [California, U.S.A.] (Vaqueros Fm.)

Suborder ROTULINA Durham

Family ROTULIDAE Gray

Genus *Rotula* Schumacher

QUATERNARY/PLIOCENE

R. orbiculus (Linné) *angolensis* Gonçalves and Roman, 1963:101–106, pls. 1–5. [Angola, southwest Africa.]

Genus *Rotuloidea* Etheridge

LOWER MIOCENE

R. vieirai Dartevelle, 1953:103–107, figs. 22–23, pl. 6: fig. 4, pl. 7: figs. 1–2, pl. 16: figs. 1–8. [Luanda, northwest Angola, southwest Africa.] (Upper Burdigalian.)

Suborder Uncertain

Family Uncertain

Genus *Runa* L. Agassiz

UPPER PLIOCENE

R. paromaica Argamakova, 1934:29, 41–42, fig. 14, pl. 1: fig. 7. [U.S.S.R.]

Superorder ATELOSTOMATA Zittel

Order CASSIDULOIDA Claus

Order GALEROPYGOIDA Mintz

GALEROPYGOIDA Mintz, 1968:1287–1288.

Family GALEROPYGIDAE Lambert

Genus *Galeropygus* Cotteau

MIDDLE JURASSIC

G. marcoui Desor var. *recincta* Mercier, 1935:29–30. [France.] (Lower Bajocian.)

G. welschi Lambert, 1935a:529–530, pl. 26: figs. 10–11. [France.] (Bathonian.)

Genus *Hyboclypus* L. Agassiz

MIDDLE JURASSIC

H. schlumbergeri Lambert, 1935a:531. [France, Alsace.] (Bathonian.)

Genus *Laticlypus* Szörényi

Upper Jurassic

Laticlypus Szörényi, 1966:446–447. Type-species: *L. giganteus* Szörényi, 1966:448–449, figs. 1–5. [Hungary.] (Oxfordian or upper Dogger.)

Genus *Stegopygus* Devriès and Alcaydé

Upper Cretaceous

Stegopygus Devriès and Alcaydé, 1966:21–25. Type-species: *S. langeensis* Devriès, 1966:21–25, pls. 1–2. [France.] (Cenomanian.)

Family CLYPEIDAE Lambert

Genus *Clypeus* Leske

Upper Jurassic

C. rostellus Currie, 1925:64–65, pl. 10: figs. 3a–c. [Somaliland, East Africa.] (Corallian.)
C. wylliei Currie, 1925:63–64, pl. 10: figs. 1a–c, 2. [Somaliland, East Africa.] (Bathonian.)

Genus *Crotoclypeus* Pomel

In the *Treatise,* Kier (Durham et al., 1966:U499) considers *Crotoclypeus* Pomel a subjective synonym of *Clypeus* Leske.

Jurassic

C. cottreaui Besairie and Lambert in Lambert, 1933a:11. [Madagascar, off East African coast.]

Genus *Dactyloclypeus* Maccagno

In the *Treatise,* Kier (Durham et al., 1966:U499) considers *Dactyloclypeus* a subjective synonym of *Clypeus* Leske.

Jurassic

Clitopygus (Dactyloclypeus) Maccagno, 1947b:126–129, pl. 1: figs. 11, 11a–b. Type-species: *Clypeus wylliei* Currie. [North Africa.]

Genus *Bothryopneustes* Fourtau

Middle Jurassic

B. besairiei Besairie, 1936:128, pl. 8: figs. 10–12. Madagascar, off East Africa coast.] (Upper Bathonian.)
B. galhauseni Lambert, 1933b:58–59, pl. 2: figs. 17–19. [North Africa.] (Bathonian.)

Genus *Clypeobrissus* Currie

In the *Treatise,* Kier (Durham et al., 1966:U499) considers *Clypeobrissus* Currie a subjective synonym of *Bothryopneustes* Fourtau.

Jurassic

Clypeobrissus Currie, 1925:69. (Bathonian.) Type-species: *C. somaliensis* Currie, 1925:69–70, fig. 13, pl. 10: figs. 6a–c, 7. [Somaliland, East Africa.] (Corallian.) [Bathonian according to Currie (1927:411).]

Genus *Pseudopygurus* Lambert

Upper Jurassic

P. ambroggii Petitot, 1954:83–86, figs. 1–2, pl. 1: figs. 1–7. [Morocco.] (Oxfordian.)

Middle Jurassic

P. hathirae Parnes, 1961:217–222, fig. 1, pl. 1: figs. 1–6. [Israel.] (Middle Callovian.)

Genus *Pygurus* L. Agassiz

Upper Cretaceous

P lampassiformis Tzankov, 1934:204–205, 218–219, pl. 2: fig. 2. [Bulgaria.] (Santonian.)

Middle Jurassic

P. cottreaui Besairie, 1930:196–197, pl. 9: figs. 2–2a. [Madagascar, off East Africa.] (Callovian.)

MIDDLE JURASSIC

P. depressus Agassiz var. *somaliensis* Currie, 1925: 65–67, fig. 11, pl. 10: figs. 4a–c. [Somaliland, East Africa.] (Bathonian/Callovian.)

P. smelliei Currie, 1925:67–69, fig. 12, pl. 10: figs. 5a–c. [Somaliland, East Africa. According to Currie (1927:411) this species is from the Bathonian.]

Subgenus *Pygurus* (*Pygurus*)

LOWER CRETACEOUS

Pygurus (Pygurus) complanatus Tanaka, 1965: 128–129, pl. 15: figs. 1a–c, 2a–c. [Japan.]

Genus *Echinopygus* d'Orbigny

In the *Treatise,* Kier (Durham et al., 1966:U499) considers *Echinopygus* a subjective synonym of *Pygurus* (*Pygurus*).

UPPER CRETACEOUS

Pygurus (*Echinopygus*) *tinocoi* Beurlen, 1966: 458–459, fig. 2, pl. 1: fig.2. [Brazil.] (Cenomanian.)

LOWER CRETACEOUS

Pygurus (*Echinopygus*) *jagueyanus* Cooke, 1955:98, pl. 23: figs. 5–9. [Colombia.] (Upper Albian.)

JURASSIC

E. checchiai Maccagno, 1947b:134–136, fig. 4c, pl. 1: figs. 14, 14a–b. [Somaliland, East Africa.]

Family NUCLEOLITIDAE L. Agassiz and Desor

Genus *Nucleolites* Lamarck

EOCENE

N. bakalovi Gočev, 1933:48–49, pl. 7: figs. 8–12. [Bulgaria.]

CRETACEOUS

N. wilderae Ikins, 1940:76, pl. 6: figs. 5a–c. [Texas, U.S.A.]

UPPER CRETACEOUS

N. simpaticus Sánchez Roig, 1952d:51–52, pl. 17: figs. 7–8. [Cuba.] (Senonian.)

N. tornacensis Smiser, 1935b:50, pl. 4: figs. 11a–d. [Belgium.] (Cenomanian.)

Genus *Clitopygus* Pomel

In the *Treatise,* Kier (Durham et al., 1966:U501) considers *Clitopygus* a subjective synonym of *Nucleolites* Lamarck.

UPPER CRETACEOUS

C. cantrainei Smiser, 1935b:51, pl. 4: figs. 12a–d. [Belgium.] (Cenomanian.)

MIDDLE JURASSIC

C. basseae Lambert, 1936c:22, pl. 4: figs. 14–16. [Madagascar, off East Africa.] (Callovian.)

C. moutieri Mercier, 1932:233–234, pl. 10: figs. 7a–b. [France.] (Upper Bathonian.)

Genus *Echinobrissus* Gray

In the *Treatise,* Kier (Durham et al., 1966:U501) considers *Echinobrissus* an objective synonym of *Nucleolites.*

UPPER CRETACEOUS

E. chirakhanensis Chiplonker, 1939:237–238, pl. 25: figs. 3a–b. [India.] (Cenomanian.)

E. cremai Checchia-Rispoli, 1921:24–25, pl. 8: figs. 10–13. [Tripoli, Libya.] (Senonian.)

E. cubensis Weisbord, 1934:27–28, pl. 2: figs. 1–3. [Cuba.]

E. franchii Checchia-Rispoli, 1921:25–26, pl. 8: figs. 14–17, pl. 9: fig. 4. [Tripoli, Libya.] (Senonian.)

E. hierosolymitanus Blanckenhorn, 1925 [1924]:95, pl. 7: figs. 19–23. [Palestine, Israel.] (Turonian/Santonian.)

E. malwaensis Chiplonker, 1939:236–237, pl. 25: figs. 1a–b. [India.] (Cenomanian.)

E. rajnathi Chiplonker, 1939:238–240, pl. 25: figs. 2a–b. [India.] (Cenomanian.)

Middle Jurassic

E. pilensis Jesionek-Szymańska, 1963:349–351, 402, 413, text-pl. 5: figs. 1–5, pl. 3: figs. 3a–d. [Poland.] (Upper Bathonian.)

Genus *Catopygus* L. Agassiz

Upper Eocene

C. riveroi Sánchez Roig, 1952d:50–51, pl. 17: figs. 5–6. [Cuba.]

Cretaceous

C. jeanneti Lambert, 1931e:303, pl. 17: figs. 19–23. [Cuba.]

Upper Cretaceous

C. conformis Desor var. *conoideus* Tzankov, 1934: 203, 218, pl. 1: fig. 12. [Bulgaria.] (Maestrichtian/ Upper Campanian.)
C. inflatus Regnéll, 1955:22–27, pl. 1: figs. 1a–d. [Sweden.] (Maestrichtian?)
C. irregularis Smiser, 1935b:56–57, pl. 5: figs. 7a–i. [Belgium and Holland.] (Maestrichtian?)
C. mississippiensis Cooke, 1953:15–16, pl. 5: figs. 3–6. [Mississippi, U.S.A.] (Upper Maestrichtian.)
C. rodriguezi Lambert and Roig in Sánchez Roig, 1926:71, pl. 10: figs. 1–3. [Cuba.] (Senonian.)
C. subcircularis Smiser, 1935b:56, pl. 5: figs. 6a–d. [Belgium and Holland.] (Maestrichtian?)
C. zinai Airaghi, 1939:259, pl. 11: figs. 3–4. [North Africa.] (Maestrichtian?)

Genus *Clypeopygus* d'Orbigny

Upper Cretaceous

C. bulgaricus Tzankov, 1934:200–201, 217–218, pl. 2: figs. 1a–b. [Bulgaria.] (Maestrichtian.)
C. dallonii Lambert, 1935c:360–361, pl. 16: figs. 4–6. [Algeria, North Africa.] (Santonian.)
C. damujiensis Sánchez Roig, 1952d:49–50, pl. 17: fig. 3. [Cuba.] (Senonian.)
C. habanensis Weisbord, 1934:32–34, pl. 3: figs. 1–3. [Cuba.]

Genus *Oolopygus* d'Orbigny

Upper Cretaceous

O. convexus Smiser, 1935b:59, pl. 6: figs. 1a–d. [Belgium.] (Maestrichtian.)
Catopygus (*Oolopygus*) *gonzalezi* Sánchez Roig, 1953c:145–146, pl. 4: figs. 1–2. [Cuba.]
O. jandrainensis Smiser, 1935b:58, pl. 5: figs. 9a–d. [Belgium.] (Maestrichtian.)

Genus *Phyllobrissus* Cotteau

Upper Cretaceous

P. oblongus Smiser, 1935b:53, pl. 5: figs. 2a–f. [Belgium.] (Maestrichtian.)

Lower Cretaceous

P. artesianus Hawkins, 1926:189–191, fig. 23. [England.] (Aptian.)
P. zulianus Cooke, 1961:6–7, pl. 1: figs. 10–12. [Venezuela.] (Aptian.)

Genus *Plagiochasma* Pomel

Lower Cretaceous

P. coxwellense Melville, 1952:2–5, fig. 1, pl. 1: figs. 1a–c. [England.] (Upper Aptian.)

Genus *Trematopygus* d'Orbigny

In the *Treatise,* Kier (Durham et al., 1966:U505) considers *Trematopygus* an objective synonym of *Plagiochasma* Pomel.

Upper Cretaceous

T. novaki Zázvorka, 1952:1–4, 3 figs., pl. 1. [Bohemia.] (Lower Turonian.)

Genus *Pygorhynchus* L. Agassiz

Upper Oligocene

P. riveroi Sánchez Roig, 1949:125–126, pl. 17: fig. 1. [Cuba.]

Upper Eocene

Cassidulus (*Pygorhynchus*) *berryi* Kellum, 1926:15, pl. 1: figs. 4–7. [North Carolina, U.S.A.]

C. (*P.*) *carolinensis* Twitchell var. *cravenensis* Kellum, 1926:15, pl. 1: figs. 1–3. [North Carolina, U.S.A.]

C. (*P.*) *sabistonensis* Kellum, 1931:51. [North Carolina, U.S.A. New name for *C. berryi* Kellum, 1926, not Twitchell, 1915.]

Upper Cretaceous

P. conicus Smiser, 1935b:48, pl. 4: figs. 9a–d. [Belgium.] (Maestrichtian.)

P. ovalis Smiser, 1935b:47, pl. 4: figs. 7a–d. [Belgium.] (Maestrichtian.)

Genus *Botriopygus* d'Orbigny

In the *Treatise,* Kier (Durham et al., 1966:U506) considers *Botriopygus* an objective synonym of *Pygorhynchus* L. Agassiz.

Upper Cretaceous

B. jesusmariae Sánchez Roig, 1949:129–130. [Cuba.] (Senonian.)

B. lamberti Checchia-Rispoli, 1933b:17–18, pl. 2: figs. 13–16. [North Africa.] (Maestrichtian.)

B. millosevichi Checchia-Rispoli, 1933b:14–16, pl. 2: figs. 8–12. [North Africa.] (Maestrichtian.)

B. vinassai Serra, 1935:123–124, pl. 5: figs. 1, 1a–c. [Tripoli, North Africa.] (Maestrichtian.)

Lower Cretaceous

B. royoi Lambert, 1935f:524, pl. 58: figs. 8–9. [Spain.] (Aptian.)

Family ECHINOLAMPADIDAE Gray

Genus *Echinolampas* Gray

Recent

E. alexandri de Loriol var. *forcipulata* Mortensen, 1948c:286, fig. 272b, pl. 3: figs. 8–9, pl. 4: fig. 10, pl. 14: figs. 10–12. [Indian Ocean.]

E. alexandri de Loriol var. *sibogae* Mortensen, 1948c:285–286, fig. 268c, 270b, 272c, pl. 14: figs. 2, 5–6, 13. [Malaysia.]

E. koreana H. L. Clark, 1925a:183–184, pl. 10: figs. 4–5. [Korean Strait, eastern channel between South Korea and southwest Japan.]

Tertiary

E. madurensis K. Martin, 1919:54, 111. [Java, Indonesia.] (Neogene.)

Lower Tertiary

E. omanensis Clegg, 1933:11–12, pl. 1: figs. 5a–c. [Arabia.]

E. peyroti Castex, 1930:33–34, pl. 2: figs. 5–7. [France.]

Pliocene

E. woodi Currie, 1930:176–177, pl. 16: fig. 6. [Mombasa Island, East Africa.]

Miocene

E. atrophus Lambert *podolicus* Szörényi, 1953:34–35, 85–86, pl. 6: figs. 4, 4a–b. [Ukraine.]

E. consolationis Sánchez Roig, 1953c:148–149, pl. 4: figs. 9–11. [Cuba.]

E. delorenzoi Mirigliano, 1938:46–50, fig. 1, pl. 1: figs. 1–3. [Italy.]

E. hemisphericus Lamarck var. *bardiensis* Desio, 1929:330–331, fig. 37, pl. 36: fig. 2. [Oasis of Giarabùb, Libya.] (Porto Bardia.)

E. hemisphericus Lamarck var. *cyrenaicus* Desio, 1929:329–330, fig. 36, pl. 36: figs. 1a–b. [Oasis of Giarabùb, Libya.] (Porto Bardia.)

E. mestrei Sánchez Roig, 1926:75–76, pl. 10: fig. 7. [Cuba.]

E. paraensis Marchesini Santos, 1958:12–14, 20, pl. 1: figs. 1–2, pl. 2: fig. 5. [Brazil.]

E. percrassus Meznerics, 1941:90, pl. 2: fig. 4, pl. 3: fig. 4. [Hungary.]

E. vadaszi Roman in Roman and Gonçalves, 1965: 309. [Hungary and Czechoslovakia. For *E.* (*Heteroclypeus*) *hungaricus* Vadasz, 1915, not *E. hungarica* Dornyai, 1913.]

E. woodringi Durham, 1961:481, figs. 1A, 2A, pl. 68: figs. 2–3, 7. [Costa Rica.]

Lower Miocene

E. concavus Hayasaka, 1947:103–105, pl. 9: fig. 2; 1948:89–90. [China.]

E. visedoi Lambert, 1935b:367, pl. 41: figs. 1–3. [Spain.] (Aquitanian.)

Oligocene

E. camagueyensis Weisbord, 1934:81–83, pl. 8: figs. 9–11. [Cuba.]

E. daguini Castex, 1930:36, pl. 3: figs. 1–3. [France.] (Stampian.)

E. rollandi? Lambert, 1931c:107, pl. 6: fig. 1. [Tunis, North Africa.]

N. santaclarae Sánchez Roig, 1951:55–56, pl. 32: figs. 1–2. [Cuba.]

Upper Oligocene

E. cojimarensis Sánchez Roig, 1949:152–153, pl. 19: figs. 4–5. [Cuba.]

E. hemisphericus Lambert var. *cubensis* Palmer in Sánchez Roig, 1949:149–150. [Cuba. Although Palmer considered this species Lower Miocene, Brodermann (1949:321) says it is Upper Oligocene.]

E. munozi Sánchez Roig, 1949:157–158, pl. 19: figs. 1–3. [Cuba. Brodermann (1949:321) says it is Lower to Upper Oligocene.]

E. umbella Palmer in Sánchez Roig, 1949:151–152. [Cuba. Although Palmer cites this as Oligocene, Brodermann (1949:321) says this species is Upper Oligocene.]

Oligocene or Eocene

E. marcaisi Lambert, 1937:92–93, pl. 2: fig. 4. [Morocco.] (Lower Lutetian.)

Eocene

E. altissima Arnold and H. L. Clark, 1927:47–48, pl. 9: figs. 1–4. [Jamaica, British West Indies.]

E. anceps Chautard and Lambert var. *inflata* Lambert in Lambert and Jacquet, 1936:355, pl. 22: fig. 9. [Senegal, West Africa.]

E. anceps Chautard and Lambert var. *planipetala* Lambert in Lambert and Jacquet, 1936:355, pl. 22: figs. 7–8. [Senegal, West Africa.]

E. atascaderensis Brighton, 1926b:370, figs. 3a–d. pl. 26: fig. i. [Peru.] (Atascadero Ls.)

E. bothriopygoides Lambert, 1937:87, pl. 3: figs. 9–11. [Morocco.]

E. brachytona Arnold and H. L. Clark, 1927:49–50, pl. 9: figs. 5–6. [Jamaica, British West Indies.]

E. cuvillieri Lambert in Lambert and Jacquet, 1936:356, pl. 22: figs. 12–14. [Senegal, West Africa.]

E. jacqueti Lambert in Lambert and Jacquet, 1936:355–356, pl. 22: figs. 4–6. [Senegal, West Africa.]

E. macrostoma Lambert in Lambert and Jacquet, 1936:356–357, pl. 23: figs. 1–3. [Senegal, West Africa.]

E. marioi Roman in Roman and Gonçalves, 1965: 289–290. [Cuba. New name for *Palaeolampas elongata* Roig, 1953, not *E. elongata* Laube, 1868.]

E. menchikoffi Lambert, 1935c:364–365, pl. 16: figs. 10–11. [Libya, North Africa.]

E. paragoga Arnold and H. L. Clark, 1927:50–51, pl. 9: figs. 9–13. [Jamaica.]

E. rombellipsoidalis Thirring, 1936:57–58, pl. 2: figs. 13–14. [Hungary.]

E. strongyla Arnold and H. L. Clark, 1927:51, pl. 9: figs. 14–17. [Jamaica.]

Upper Eocene

E. chiesai Airaghi, 1939:273, pl. 11: figs. 8–11. [North Africa.]

E. nuevitasensis Weisbord, 1934:65–67, pl. 7: figs. 4–6. [Cuba.]

Middle Eocene

E. africanus de Loriol var. *tanofrei* Socin, 1946: 163–171, figs. 1a–d. [North Africa.] (Priabonian/Lutetian.)

E. barcensis Tavani, 1946:177–178, figs. 1a–b. [North Africa.] (Lower Lutetian.)

E. bombos Nisiyama, 1968:17–19, pl. 10: figs. 10–11, pl. 11: figs. 1–6, 9. [Bonin Islands, off southeast Japan.] (Lutetian.)

E. caranoi Checchia-Rispoli, 1950a[1945]:29–30, pl. 2: figs. 2, 2a–b. [Somaliland, East Africa.]

E. dubaleni Castex, 1930:32–34, pl. 3: figs. 4–6. [France.] (Upper to Middle Lutetian.)

E. ellipsoidalis d'Archiac var. *chalossensis* Castex, 1930:32. [France.] (Lutetian.)

E. gignouxi Lambert, 1933a:35, pl. 2: fig. 25. [Madagascar, off East Africa.] (Lutetian.)
E. migiurtinus Checchia-Rispoli, 1950a[1945]:24–26, pl. 1: figs. 2, 2a–b. [Somaliland, East Africa.]
E. migliorinii Checchia-Rispoli, 1950a[1945]:28–29, pl. 2: figs. 1, 1a–b. [Somaliland, East Africa.]
E. neuvillei Castex, 1930:34–35, pl. 2: figs. 8–10. [France.] (Middle Lutetian.)
E. parvula Lambert, 1936c:31–32, pl. 3: figs. 13–15. [Madagascar, off East Africa.] (Lower Lutetian.)
E. venzoi Roman in Roman and Gonçalves, 1965: 303. [Isle of Rhodes, southeast Aegean Sea. New name for *E. rhodiensis* Venzo, 1934, not *E. rhodensis* Laube, 1868.] (Lutetian.)

Lower Eocene

E. valettei Lambert, 1933a:34–35, pl. 2: figs. 23–24. [Madagascar, off East Africa.]

Paleocene

E. hanguensis Davies, 1943:68–69, pl. 11: figs. 2–5. [India.]

Genus *Cylindrolampas* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Cylindrolampas* a subjective synonym of *Echinolampas* Gray.

Middle Eocene

Echinolampas (Cylindrolampas) migliorinii Venzo, 1934a:127–128, pl. 12: figs. 7a–c. [Isle of Rhodes, southeast Aegean Sea.] (Lutetian.)
E. (C.) rhodiensis Venzo, 1934a:128–130, pl. 12: figs. 5a–b, 6a–c. [Isle of Rhodes, southeast Aegean Sea.] (Lutetian.)
E. (C.) sandiegensis Sánchez Roig, 1953c:151–152, pl. 5: figs. 3–4. [Cuba.]

Genus *Cypholampas* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Cypholampas* a subjective synonym of *Echinolampas* Gray.

Middle Eocene

Echinolampas (Cypholampas) eocenicus Sánchez Roig, 1953c:149, pl. 5: figs. 1–2. [Cuba.]
E. (C.) subnucleus Venzo, 1934a:125–126, pl. 12: figs. 3a–c. [Isle of Rhodes, southeast Aegean Sea.] (Lutetian.)

Genus *Hypsoclypus* Pomel

In the *Treatise,* Kier (Durham et al., 1966:U506) considers *Hypsoclypus* a subjective synonym of *Echinolampas* Gray.

Miocene

Echinolampas (Hypsoclypus) checchiai Roman in Roman and Gonçalves, 1965:305. [Sicily, Yugoslavia, and Ukraine. New name for *Hypsoclypus lamberti* Checchia-Rispoli, 1917, not *E. lamberti* Cotteau, 1894.]
E. (H.) desertícus Desio, 1929:332–335, pl. 37: figs. 2a–b. [Oasis of Giarabùb, Libya, North Africa.]

Middle Miocene

H. fuentesi Sánchez Roig, 1953a:55, pl. 5, pl. 6 (pars). [Cuba.]
H. holguinensis Sánchez Roig, 1953a:54–55, pls. 3–4 (pars). [Cuba.]

Genus *Isolampas* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Isolampas* a subjective synonym of *Echinolampas* Gray.

Miocene

Echinolampas (Isolampas) garciai Sánchez Roig, 1952c:7, pl. 3: fig. 3. [Cuba.]

Lower Miocene

E. (I.) cavaionensis Venzo, 1935:229–230, pl. 17: figs. 27–28. [Italy.] (Lower Aquitanian.)

Upper Oligocene

E. (I.) globulossus Sánchez Roig, 1952c:7–8, pl. 1: figs. 7–8. [Cuba.]

Genus *Macrolampas* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Macrolampas* a subjective synonym of *Echinolampas* Gray.

Lower Miocene

Echinolampas (Macrolampas) gigas Sánchez Roig, 1953a:55–56, pl. 3. (pars), pls. 7–8. [Cuba.]

Genus *Progonolampas* Bittner

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Progonolampas* a subjective synonym of *Echinolampas* Gray.

Upper Oligocene

Echinolampas (Progonolampas) moronensis Sánchez Roig, 1953c:152–153, pl. 6: figs. 1–2. [Cuba.]
E. (P.) tenuipetalum Sánchez Roig, 1952c:6–7, pl. 3: figs. 1–2. [Cuba.]
E. (P.) torrense Sánchez Roig, 1953c:152, pl. 5: figs. 5–6. [Cuba.]

Genus *Psammolampas* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Psammolampas* a subjective synonym of *Echinolampas* Gray.

Oligocene

Echinolampas (Psammolampas) kugleri Jeannet, 1959:201–203, pl. 2: figs. 4–6, pl. 9. [Trinidad, West Indies.]

Genus *Heteroclypeus* Cotteau

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Heteroclypeus* a subjective synonym of *Echinolampas* Gray.

Miocene

H. wiedenmayeri Jeannet, 1928b:220. [Locality?]

Middle Miocene

H. wiedenmayeri Jeannet, 1928a:33–34, pl. 4: figs. 8–13, pl. 6: fig. 8. [Venezuela.] (Calcaire de Capadare.)

Genus *Hypsoheteroclypus* Szörényi

In the *Treatise,* Kier (Durham et al., 1966:U508) considers *Hypsoheteroclypus* a subjective synonym of *Echinolampas* Gray.

Miocene

Hypsoheteroclypus Szörényi, 1953:76–78. Type-species: *H. doma* Pomel. [Algiers, North Africa.]
H. plagiosomus Lambert *corsicanus* Szörényi 1953: 28–29, 78–79, pl. 4: figs. 1, 1a–b. [Europe.]
H. vicinoconoideus Szörényi, 1953:33, 83–84, pl. 6: figs. 2, 2a–b, 3. [Europe.]

Genus *Palaeolampas* Bell

In the *Treatise,* Kier (Durham et al., 1966:U506) considers *Palaeolampas* a subjective synonym of *Echinolampas* Gray.

Eocene

P. alta Arnold and H. L. Clark, 1927:52–53, pl. 10: figs. 1–3. [Jamaica, West Indies.]
P. plateia Arnold and H. L. Clark, 1927:53–54, pl. 10: figs. 4–6. [Jamaica, British West Indies.]

Middle Eocene

P. elongatus Sánchez Roig, 1953a:56–57, pl. 4 (pars). [Cuba.]

Genus *Planilampas* Mortensen

In the *Treatise,* Kier (Durham et al., 1966:U508) considers *Planilampas* a subjective synonym of *Echinolampas* Gray.

Recent

Planilampas Mortensen, 1948c:297. Type-species: *Echinolampas sternopetala* Agassiz and Clarke. [Japan.]

Upper Oligocene

P. circularis Sánchez Roig, 1953a:57, pl. 9. [Cuba.]

Genus *Progonolampas* Bittner

In the *Treatise,* Kier (Durham et al., 1966:U507) considers *Progonolampas* a subjective synonym of *Echinolampas* Gray.

Middle Miocene

P. candeli Lambert, 1931c:52, pl. 3: fig. 10. [North Africa.] (Sahelian-Tortonian.)

Upper Oligocene

P. sanchezi Lambert in Sánchez Roig, 1949:159, pl. 19: figs. 6–7. [Cuba.]

Genus *Arnaudaster* Lambert

Lower Cretaceous

A. colombianus Cooke, 1955:96, pl. 22: figs. 1–9. [Colombia.] (Upper Albian.)

Genus *Conolampas* A. Agassiz

Recent

C. diomedeae Mortensen, 1948a:95–96. [Philippine Islands.]

C. malayana Mortensen, 1948c:309–310, fig. 273c, pl. 7: figs. 4–6, pl. 13: figs. 11, 14; 1948e:68. [Kei Islands, Indonesia.]

C. murrayana Mortensen, 1948b:2–3, pl. 1: figs. 1–3. [Maldive Islands, Indian Ocean off south India.]

Genus *Parapygus* Pomel

Upper Cretaceous

P. mossoroensis Maury, 1925:500–503, pl. 24: fig. 9. [Brazil.]

Genus *Plesiolampas* Duncan and Sladen

Paleocene

P. auraduensis Kier, 1957b:857–858, pl. 104: figs. 2–4. [British Somaliland, East Africa.] (Lower Auradu Series.)

P. curriae Kier, 1957b:856–857, fig. 6, pl. 103: figs. 13–14. [British Somaliland, East Africa.] (Lower Auradu Series.)

Family FAUJASIIDAE Lambert

Genus *Faujasia* d'Orbigny

Upper Cretaceous

F. chelonium Cooke, 1953:14, pl. 4: figs. 11–14. [Texas, U.S.A.] (Upper Maestrichtian.)

F. eccentripora Lees, 1928:661–662, pl. 46: figs. 2a–b. [Arabia.] (Maestrichtian.)

F. praeacutus Egorov in Dzhalilov and Egorov, 1969:109–111, figs. 3a–e. [Tadzhik, U.S.S.R. (Central Asia).] (Upper Senonian.)

F.? transversus Smiser, 1935b:65, pl. 7: figs. 1a–e. [Holland.] (Maestrichtian.)

Lower Cretaceous

F. araripensis Beurlen, 1966:456–458, fig. 1, pl. 1: figs. 1a–b. [Brazil.] (Albian?)

F. rancheriana Cooke, 1955:97, pl. 23: figs. 10–14. [Colombia.] (Upper Albian.)

Genus *Australanthus* Bittner

Upper Cretaceous

Procassidulus (*Australanthus*) *madrugensis* Sánchez Roig, 1949:140–141, pl. 18: figs. 4–6. [Cuba.]

Genus *Domechinus* Kier

Upper Cretaceous

Domechinus Kier, 1962:141–142. Type-species: *Faujasia chelonium* Cooke. [Texas, U.S.A.] (Maestrichtian.)

D. teixeirai Gonçalves in Roman and Gonçalves, 1965:270–271, figs. 2–3, pl. 2: figs. 10–11, 13. [Mozambique, southeast Africa.]

Genus *Eurypetalum* Kier

Upper Cretaceous

Eurypetalum Kier, 1962:140. Type-species: *Echinolampas faujasia* Desmoulins. [Europe.] (Senonian.)

Genus *Gongrochanus* Kier

Upper Cretaceous

Gongrochanus Kier, 1962:131–132. Type-species: *Cyrtoma herscheliana* M'Clelland. [India.] (Senonian.)

Genus *Hardouinia* Haime in d'Archiac and Haime

Upper Cretaceous

H. clypeus Cooke, 1955:98–99, pl. 25: figs. 1–5. [Alabama, U.S.A.] (Santonian.)
H. mcglameryae Cooke, 1953:24, pl. 8: figs. 23–26. [Alabama, U.S.A.] (Upper Maestrichtian?)
H. potosiensis Lambert, 1936e:5–6, pl. 1: figs. 2–4. [Mexico.] (Santonian?)
H? stetsoni Stephenson, 1936:371–372, pl. 1: figs. 2–4. [North America.]
H. waagei Holland and Feldmann, 1967:252–255, fig. 1. [North Dakota, U.S.A.] (Maestrichtian.)

Genus *Lefortia* Cossmann

Upper Cretaceous

L. trojana Cooke, 1953:17, pl. 4: figs. 8–10. [Mississippi, U.S.A.] (Middle Maestrichtian.)

Genus *Petalobrissus* Lambert

Upper Cretaceous

P. burckhardti Lambert, 1936e:5, pl. 1: figs. 7–8. [Mexico.] (Lower Senonian.)
P. (*Echinobrissus*) *setifensis* Coquand var. *punica* Lambert, 1931c:97, pl. 4: fig. 31. [Tunis, North Africa.] (Upper Senonian.)

Genus *Pygurostoma* Cotteau and Gauthier

Upper Cretaceous

P. pasionensis Cooke, 1949a:1–3, fig. 1. [Central America.]

Genus *Stigmatopygus* d'Orbigny

Upper Cretaceous

S. lamberti Besairie, 1930:228, pl. 23: figs. 1–8. [Madagascar, off East Africa.] (Upper Campanian.)
S. lehmani Gonçalves in Roman and Gonçalves, 1965:269–270, fig. 1, pl. 2: figs. 5–9, 12. [Mozambique, southeast Africa.]

Family ARCHIACIIDAE Cotteau and Triger

Genus *Archiacia* L. Agassiz

Upper Cretaceous

A. lorioli Checchia-Rispoli, 1921:26–27, pl. 9: figs. 12–13. [Tripoli, Libya, North Africa.] (Cenomanian.)

Genus *Gentilia* Lambert

Upper Cretaceous

G. chouberti Lambert, 1937:77–78, fig. 4. [Morocco.] (Upper Cenomanian.)
G. syriensis Kier, 1962:156–157, figs. 129–131, pl. 23: figs. 5–11. [Syria.] (Cenomanian.)

Family CASSIDULIDAE L. Agassiz and Desor

Genus *Cassidulus* Lamarck

Recent

C. delectus Krau, 1960:157–159, pls. 1–4. [Brazil.]
C. infidus Mortensen, 1948c:215, pl. 2: figs. 6–8; 1948e:67. [Tropical Atlantic.]
C. mitis Krau, 1954:455–475, pls. 1–5, pl. 6: fig. 21. [Brazil.]

Tertiary

C. platypetalus Arnold and H. L. Clark, 1934:144, pl. 1: figs. 3–5. [Jamaica, British West Indies.]
C. sphaeroides Arnold and H. L. Clark, 1934:144–145, pl. 1: figs. 6–8. [Jamaica, British West Indies.]

Upper Oligocene

C. rojasi Sánchez Roig, 1953c:146–147, pl. 4: figs. 3–5. [Cuba.]

Upper Eocene

C. ericsoni Fischer, 1951:65–68, figs. 6–8, pl. 2: figs. 1–2, pl. 3: figs. 1–3. [U.S.A.]

Cassidulus (*Cassidulus*) *trojanus* Cooke, 1942:32, pl. 2: figs. 22–25. [U.S.A.]

Middle Eocene

C. mestieri Kier, 1966b:10, fig. 16, pl. 1: figs. 9–11. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)

C. senni Kier, 1966b:8–9, figs. 14–15, pl. 1: figs. 6–8. [Barbados, Lesser Antilles, West Indies.] (Upper Scotland Fm.)

Paleocene

C. faberi Ravn, 1927:327–329, pl. 2: figs. 4–6, 7a–d. [Denmark.] (Danian.)

Upper Cretaceous

C. cubensis Weisbord, 1934:28–30, pl. 2: figs. 9–11. [Cuba.]

C. emmonsi Stephenson, 1928:7–10, pl. 3: figs. 3–8, pl. 4. [North Carolina, U.S.A.] (Maestrichtian/Upper Senonian.)

C. kellumi Stephenson, 1928:5–7, pls. 1–2, pl. 3: figs. 1–2. [North Carolina, U.S.A.] (Maestrichtian/Upper Senonian.)

C. mercedensis Anderson, 1958:85–86, pl. 6: figs. 2a–b. [California, U.S.A.]

C. taylori Warren, 1926:11, pl. 1: figs. 10–13. [Alberta, Canada.] (Birch Lake Member, Belly River Group.)

Genus *Glossaster* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U514) considers *Glossaster* a subjective synonym of *Cassidulus* Lamarck.

Upper Cretaceous

G. welschi Gauthier in Lambert, 1931c:74–75, pl. 3: figs. 18–19. [Algiers, North Africa.] (Maestrichtian/Upper Senonian.)

Genus *Nucleopygus* L. Agassiz

Miocene

N. lebescontei Tournouer var. *ancegavensis* Cottreau, 1933:545–546, pl. 27: figs. 4, 4a–b. [France.]

Upper Eocene

N. tamarindensis Sánchez Roig, 1952d:54, pl. 16: figs. 2–3. [Cuba.]

Upper Cretaceous

N. atlanticus Kossmat *brevior* Dartevelle, 1953:51–52, pl. 5: figs. 2, 4–5, 10–11, 13. [Belgian Congo, south Central Africa.] (Turonian/Cenomanian.)

N.? gallagheri Richards, 1962:200–201, pl. 92: figs. 3–4. [New Jersey, U.S.A.] (Navesink Fm., Maestrichtian.)

N. geayi Cottreau, 1922a:121–122, pl. 2: figs. 10, 10a–b. [Madagascar, off East Africa.] (Maestrichtian/Danian.)

N. kailensis Gauthier in Lambert, 1931c:30, pl. 1: figs. 29–30. [North Africa.] (Cenomanian.)

N. sanctaluciae Sánchez Roig, 1952d:52–53, pl. 16: figs. 4–5. [Cuba.]

Lower Cretaceous

N. piveteaui Lambert, 1931c:64–65, pl. 7: figs. 5–7. [Algiers, North Africa.] (Neocomian.)

Genus *Rhyncholampas* A. Agassiz

Pleistocene/Pliocene

R. ayresi Kier, 1963:45–48, figs. 43–46, pl. 16: figs. 3–6. [Florida, U.S.A.] (Caloosahatchee.)

Upper Oligocene

R. cervantesi Sánchez Roig, 1949:145, pl. 36: figs. 5–6. [Cuba.]

Lower Oligocene

R. rodriguezi Lambert and Roig in Sánchez Roig, 1926:72, pl. 10: figs. 4–6. [Cuba.]

Middle Eocene

R. magnei Castex, 1947:32–33, pl. 2: figs. 5–7. [France.] (Lutetian.)

Lower Eocene

R. anceps Lambert, 1933a:33–34, pl. 2: figs. 17–19. [Madagascar, off East Africa.]
R. tuderi Lambert, 1937:85–86, pl. 3: figs. 6–8. [Morocco.]

Genus *Anisopetalus* Arnold and Clark

In the *Treatise,* Kier (Durham et al., 1966:U515) considers *Anisopetalus* a subjective synonym of *Rhyncholampas* A. Agassiz.

Eocene

Anisopetalus Arnold and H. L. Clark, 1927:44–45. Type-species: *A. ellipticus* H. L. Clark in Arnold and H. L. Clark, 1927:45–46, pl. 6: figs. 16–20. [Jamaica, British West Indies.]

Miocene

A. oliveirai Marchesini Santos, 1958:11–12, 19–20, pl. 2: figs. 1–4. [Brazil.]

Upper Eocene

A. brodermanni Sánchez Roig, 1952c:9–10, pl. 4: figs. 1–3. [Cuba.]
A. caobaense Sánchez Roig, 1952c:10–11, pl. 5: figs. 1–3. [Cuba.]
A. cookei Sánchez Roig, 1952c:8–9, pl. 4: fig. 4, pl. 5: figs. 4–5. [Cuba.]

Genus *Galerolampas* Cotteau

In the *Treatise,* Kier (Durham et al., 1966:U515) considers *Galerolampas* a subjective synonym of *Rhyncholampas* A. Agassiz.

Middle Eocene

G. murardi Gorodiski, 1951:323–325, pl. 1: figs. 8–9c. [Senegal, West Africa.] (Lutetian.)

Lower Tertiary

Cassidulus (*Galerolampas*) *fontis* Cooke, 1942:35, pl. 2: figs. 26–29. [U.S.A.] (Lower Eocene or Paleocene.)

Genus *Rhynchopygus* d'Orbigny

Pliocene

Cassidulus (*Rhynchopygus*) *evergladensis* Mansfield, 1932:48, pl. 18: figs. 1–10. [U.S.A. Kier (1962:180) placed this species with *Rhyncholampas.*]

Eocene

R. matleyi Hawkins in Arnold and H. L. Clark, 1927:54–55, 79–80, pl. 11: figs. 3–4, pl. 22: figs. 6–8. [Jamaica, British West Indies.]
R. peruvianus Brighton, 1926b:366–369, figs. 2a–g, pl. 26: figs. a–d. [Peru.] (Atascadero Ls.)
R. punctatus Arnold and H. L. Clark, 1927:55–56, pl. 11: figs. 5–7. [Jamaica, British West Indies.]

Upper Eocene

C. (*R.*) *zanolettii* Sánchez Roig, 1952d:55–56, pl. 16: figs. 6–7. [Cuba.]

Upper Cretaceous

R. macari Smiser, 1935b:63, pl. 6: figs. 6a–e. [Holland.] (Maestrichtian.)

Genus *Paralampas* Duncan and Sladen

In the *Treatise,* Kier (Durham et al., 1966:U515) considers *Paralampas* a subjective synonym of *Rhynchopygus* d'Orbigny.

Eocene

P. besairiei Lambert, 1929:193, figs. 3–4. [Madagascar, off East Africa. Figured in Besairie and Lambert, 1930:114, pl. 10: figs. 5–6.]

P. conceptionis Sánchez Roig, 1953c:153–154, pl. 6: fig. 5. [Cuba.]

Upper Eocene

Cassidulus (*Paralampas*) *globosus* Fischer, 1951:71–72, figs. 8–10, pl. 4: figs. 1–5. [U.S.A.]

Genus *Procassidulus* Lambert

In the *Treatise,* Kier (Durham et al., 1966:U515) considers *Procassidulus* a subjective synonym of *Rhynchopygus* d'Orbigny.

Recent

P. malayanus Mortensen, 1948c:223–226, figs. 203–209, pl. 1: figs. 27–30, pl. 11: figs. 1, 3, 6, 10, 14–15, 18–20; 1948e:67. [Kei Islands, Indonesia.]

Lower Miocene

P. jeanneti Sánchez Roig, 1949:137, pl. 17: figs. 2–3. [Cuba.]

Oligocene

P. zinai Airaghi, 1939:274, pl. 11: fig. 12. [North Africa.]

Upper Oligocene

P. avilensis Palmer in Sánchez Roig, 1949:134–135, pl. 4: figs. 6–8. [Cuba.]

P. brodermanni Sánchez Roig, 1949:135, pl. 17: figs. 6–7. [Cuba. Although Sánchez Roig says it is Eocene, Brodermann (1949:326) places this species in the Upper Oligocene.]

P. circularis Palmer in Sánchez Roig, 1949:139–140, pl. 17: figs. 4–5. [Cuba.]

P. echevarriai Sánchez Roig, 1953c:145, pl. 4: fig. 8. [Cuba.]

P. habanensis Sánchez Roig, 1949:138, pl. 4: fig. 5. [Cuba. Although Sánchez Roig says it is Oligocene, Brodermann (1949:326) says this species is Upper Oligocene.]

Eocene

P. apianus Besairie and Lambert, 1930:113, pl. 9: figs. 4–6. [Madagascar, off East Africa.]

P. lambayensis Lambert in Lambert and Jacquet, 1936:351–352, pl. 22: figs. 1–3. [Senegal, West Africa.]

Upper Eocene

P. mooni Lambert, 1931d:202, pl. 5: figs. 8–11. [Egypt.] (Priabonian.)

Paleocene

P. gliberti Smiser, 1935b:60, pl. 6: figs. 3a–d. [Belgium.] (Montian.)

Upper Cretaceous

Lefortia (*Procassidulus*) *barrabei* Besairie, 1930:228–229, pl. 24: figs. 4, 4a, 5. [Madagascar, off East Africa.] (Upper Senonian, probably Campanian.)

P. basseae Lambert, 1936c:24–25, pl. 2: figs. 13–15. [Madagascar, off East Africa.] (Upper Campanian.)

P. clericii Checchia-Rispoli, 1933b:18–21, fig. 8, pl. 1: fig. 16. [North Africa.] (Maestrichtian.)

P. luacesi Sánchez Roig, 1949:135–136, pl. 18: figs. 1–3. [Cuba.]

P. minutus Sánchez Roig, 1949:133, pl. 17: figs. 8–11. [Cuba.]

P. neltneri Lambert, 1931c:31–32, pl. 1: figs. 26–28. [North Africa.] (Cenomanian.)

P. simpatiae Sánchez Roig, 1949:138–139, pl. 17: figs. 12–13. [Cuba.]

Family CLYPEOLAMPADIDAE Kier

Clypeolampadidae Kier, 1962:187. [Europe and India.]

Genus *Clypeolampas* Pomel

Upper Cretaceous

C. toroensis Sánchez Roig, 1952d:48–49, pl. 16: fig. 1. [Cuba.] (Senonian.)

Family PLIOLAMPADIDAE Kier

PLIOLAMPADIDAE Kier, 1962:192.

Genus *Pliolampas* Pomel

UPPER MIOCENE

P. dilatatus Callegari, 1930:10–11, figs. 17–17a. [Italy.] (Helvetian.)

EOCENE

P. trevisani Checchia-Rispoli, 1936:306–307, pl. 16: figs. 3, 3a–b, pl. 17: fig. 6. [Sicily, southwest of Italy.]

MIDDLE EOCENE

P. lorioli (Fourtau) var. *excentrica* Gorodiski, 1951: 325–327, pl. 1: figs. 2–4. [Senegal, West Africa.] (Lutetian.)

Genus *Breynella* Gregory

In the *Treatise,* Kier (Durham et al., 1966:U517) considers *Breynella* a synonym of *Pliolampas* Pomel.

UPPER CRETACEOUS

B. baixadoleitensis Maury, 1934a:153–154, pl. 15: figs. 2–3. [Brazil, Rio Grande do Norte.] (Probably Turonian.)

Genus *Eurhodia* Haime

MIOCENE

E. falconensis Jeannet, 1928b:220. [Venezuela.]

MIDDLE MIOCENE

E. falconensis Jeannet, 1928a:32–33, fig. 10, pl. 4: figs. 2–7, pl. 6: fig. 7. [Venezuela.] (Couches d'Ojo de Agua, serie Capadare.)

EOCENE

E. corralesi Sánchez Roig, 1951:61, pl. 33: figs. 4–5. [Cuba.]

MIDDLE EOCENE

E. freneixae Roman and Gorodiski, 1959:21–22, pl. 2: figs. 5–9. [Senegal.] (Upper Lutetian.)

LOWER EOCENE

E.? elbana Cooke, 1942:36–37, pl. 5: figs. 5–8. [U.S.A.]

PALEOCENE

E. morrisi (d'Archiac) var. *salsensis* Davies and Pinfold, 1937:62–63, fig. 4c, pl. 7: figs. 20, 25. [India.] (Upper Khairabad Ls. Ranikot.)

Genus *Gitolampas* Gauthier

MIDDLE MIOCENE

G. sendaica Nisiyama, 1968:22–24, fig. 26a, pl. 30: figs. 3, 5–7. [Japan.] (Moniwa Fm.)

UPPER CRETACEOUS

G. lamberti Checchia-Rispoli, 1921:18–20, pl. 7: figs. 5–24, pl. 9: fig. 3. [Tripoli, Libya.] (Senonian.)

G. zuffardii Checchia-Rispoli, 1921:20–21, figs. 1–2, pl. 7: figs. 5–24, pl. 9: fig. 3. [Tripoli, Libya.] (Senonian.)

Genus *Gitolampopsis* Checchia-Rispoli

In the *Treatise* Kier (Durham et al., 1966:U518) considers this to be a subjective synonym of *Gitolampas.*

UPPER CRETACEOUS

Gitolampopsis Checchia-Rispoli, 1921:18–20. Type-species: *Gitolampas lamberti* Checchia-Rispoli. [Tripoli, Libya.] (Senonian.)

Genus *Echanthus* Cooke

In the *Treatise,* Kier (Durham et al., 1966:U518) considers *Echanthus* a subjective synonym of *Gitolampas* Gauthier.

PALEOCENE

Echanthus Cooke, 1942:37. Type-species: *E. georgiensis* Twitchell. (Clayton Fm.)

Genus *Ilarionia* Dames

EOCENE

I. defiorei Checchia-Rispoli, 1936:305–306, pl. 16: figs. 2–2a, pl. 17: figs. 7–7a. [Sicily, southwest of Italy.]

MIDDLE EOCENE

I. jeanneti Castex, 1947:33, pl. 2: figs. 8–11. [France.] (Lutetian.)

I. sindensis Duncan and Sladen *madagascariensis* Cottreau, 1935:262–264, pl. 1: figs. 5, 5a–c. [Madagascar, off East Africa.] (Lower Lutetian.)

Genus *Neocatopygus* Duncan and Sladen

MIDDLE EOCENE

N. caobaense Sánchez Roig, 1953c:154, pl. 6: figs. 3–4. [Cuba.]

Genus *Santeelampas* Cooke

MIDDLE EOCENE

Santeelampas Cooke, 1959:61. Type-species: *Catopygus oviformis* Conrad. [South Carolina, U.S.A.]

Genus *Studeria* Duncan

UPPER OLIGOCENE

S. rositae Sánchez Roig, 1953c:147, pl. 4: figs. 6–7. [Cuba.]

Genus *Tristomanthus* Bittner

In the *Treatise,* Kier (Durham et al., 1966:U520) considers *Tristomanthus* Bittner a subjective synonym of *Studeria* Duncan.

PLIOCENE

Pliolampas (*Tristomanthus*) *elevatus* Martin in Jeannet and Martin, 1937:268–269, figs. 48a–c. [Dutch East Indies, West Pacific Ocean.]

P. (*T.*) *javanus* Jeannet *in* Jeannet and Martin, 1937:267–268, figs. 46a–d, 47a–c. [Dutch East Indies, West Pacific Ocean.]

MIOCENE

T. podjarkovi Szörényi, 1953:25–26, 74–75, pl. 4: figs. 4, 4a–b. [Ukraine.]

T. podolicus Szörényi, 1953:26, 75–76, pl. 6: figs. 6, 6a–b. [Ukraine.]

Genus *Termieria* Lambert

PALEOCENE

Termieria Lambert, 1931c:30–31. Type-species: *T. henrici* Lambert, 1931c:31, pl. 1: figs. 31–35. [North Africa, Morocco.] (Danian.)

Genus *Zuffardia* Checchia-Rispoli

UPPER CRETACEOUS

Z. cerullii Checchia-Rispoli, 1933a:4–8, pl. 1: figs. 1–4. [North Africa.] (Maestrichtian.)

Family APATOPYGIDAE Kier

Genus *Apatoypgus* Hawkins

RECENT

A. occidentalis H. L. Clark, 1938:425–428, fig. 36, pl. 28: figs. 1–3. [Western Australia.]

Family Uncertain

Genus *Astropygaulus* Checchia-Rispoli

UPPER CRETACEOUS

Astropygaulus Checchia-Rispoli, 1945[1943]:82–85. Type-species: *A. trigonopygus* Checchia-Rispoli, 1945[1943]:82–85, figs. 1–2, pl. 2: figs. 1–2. [Somaliland, East Africa.] (Cenomanian.)

Genus *Centropygus* Ebray

MIDDLE JURASSIC

C. pictaviensis Lambert, 1935a:530–531, 1 fig., pl. 26: figs. 12–15. [France.] (Callovian.)

Genus *Echinanthus* Leske

EOCENE

E.? varnensis Gočev, 1933: 52–53, fig. 9, pl. 7: figs. 1–2. [Bulgaria.]

MIDDLE EOCENE

E. neuvillei Castex, 1930:29–30, pl. 1: figs. 9–12. [France.] (Upper Lutetian.)

E. reguanti Roman and Villatte in Reguant, Roman and Villatte, 1970:903–905, figs. 4B, 5, pl. 33: figs. 9–11. [N 4 km from the road to Sau, province of Barcelone, Spain.] (Lower Biarritzian.)

LOWER EOCENE

E. basseae Lambert, 1936c:31, pl. 3: figs. 27–30. [Madagascar, off East Africa.] (Lower Lutetian.)

UPPER CRETACEOUS

E. pumilus Duncan and Sladen var. *abiadensis* Lees, 1928:662, pl. 46: fig. 3. [Arabia.] (Maestrichtian.)

These species probably should be referred to *Gitolampas*. See Kier (1962:226) for a discussion of *Echinanthus*.

Genus *Lovenilampas* Maury

UPPER CRETACEOUS

Lovenilampas Maury, 1934b:3–5. Type-species: *Lovenia baixadoleitensis* Maury, 1934b:3–5, fig. 1. [Brazil.]

Order HOLASTEROIDA Durham and Melville

Family COLLYRITIDAE d'Orbigny

Subfamily COLLYRITINAE Beurlen

COLLYRITINAE Beurlen, 1934:63–64, fig. 8. [Europe.]

Genus *Collyrites* Desmoulins

UPPER JURASSIC

C. segestina Checchia-Rispoli, 1940b:23–25, fig. 1. [Sicily, southwest of Italy.]

MIDDLE JURASSIC

C. tuarkyrensis Poretskaya, 1968b:286–287, figs. 37–38, pl. 67: figs. 1a–e. [Nedr, U.S.S.R.] (Callovian.)

Genus *Cardiopelta* Pomel

UPPER JURASSIC

Collyrites (*Cardiopelta*) *bicordata* (Leske) var. *baltica* Beurlen, 1934:91. [Europe.] (Oxfordian.)

C. (C.) capistrata Goldfuss mut. *antecedens* Beurlen, 1934:92, fig. 14c. [Europe.] (Oxfordian.)

MIDDLE JURASSIC

C. (C.) bicordata (Leske) *primitiva* Jesionek-Szymańska, 1963:375–378, 403, 414, text-pl. 11: figs. 1–9, pl. 6: figs. 2a–c, 3. [Poland.] (Upper Callovian.)

Genus *Orbignyana* Ebray

MIDDLE JURASSIC

O. quenstedti Beurlen, 1934:49–50, fig. 2c. [Europe.] (Bathonian.)

Genus *Pygorhytis* Pomel

MIDDLE JURASSIC

P. ovalis Leske var. *dimota* Vialov, 1930:868. [Asiatic Russia.] (Callovian.)

P. ringens Agassiz *wiekensis* Jesionek-Szymańska, 1963:362–363, 403, 414, text-pl. 7: figs. 1–5, pl. 5: figs. 2a–d. [Poland.] (Upper Callovian.)

Order DISASTEROIDA Mintz

DISASTEROIDA Mintz, 1968:1287–1288.

Family DISASTERIDAE A. Gras

Genus *Disaster* Agassiz

LOWER CRETACEOUS

D. dallonii Lambert, 1931c:62, pl. 3: fig. 1. [Algiers, North Africa.] (Berriasian.)

Genus *Collyropsis* Gauthier

UPPER JURASSIC

Collyropsis (Collyropsis) Beurlen, 1934:130–131. Type-species: *Collyropsis (Collyropsis) carinata* Leske. [Europe.]

Genus *Procollyropsis* Beurlen

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U527) consider *Procollyropsis* a subjective synonym of *Collyropsis.*

MIDDLE JURASSIC

Collyropsis (Procollyropsis) Beurlen, 1934:129. Type-species: *Disaster platypygus* Quenstedt. [Europe.]

Family ACROLUSIIDAE Mintz

ACROLUSIIDAE Mintz, 1968:1278. Type-genus: *Acrolusia* Lambert.

Family TITHONIIDAE Mintz

TITHONIIDAE Mintz, 1968:1278.

Genus *Corthya* Pomel

UPPER EOCENE

C. ambayraci Lambert, 1924a:5–7, figs. 1–3. [France.] (Bartonian.)

Genus *Oustechinus* Lambert

UPPER JURASSIC

Oustechinus Lambert, 1931c:92–93. Type-species: *O. basseae* Lambert, 1931c:93, fig. 7, pl. 3: figs. 31–32. [Tunis, North Africa.] (Tithonian.)

Genus *Tithonia* Pomel

LOWER CRETACEOUS

T. arctica Jeannet, 1955:553–555, fig. 1, pl. 25: figs. 1–5. [Greenland.] (Valanginian.)

UPPER JURASSIC

T. houdardi Lambert, 1933c:179–180, pl. 7: fig. 18. [France.] (Oxfordian.)
T. solignaci Lambert, 1931c:92, fig. 6, pl. 3: fig. 34. [Tunis, North Africa.] (Tithonian.)

MIDDLE JURASSIC

T. blondeti Démoly and Lambert in Démoly, 1928: 140, pl. 1: figs. 4–8. [France.] (Bathonian.)
Metaporinus (Tithonia) praeconvexa Jesionek-Szymańska, 1963:390–395, 403, 414, text-pl. 1: figs. 2, 9, text-pl. 13: figs. 4–12, text-pl. 14: figs. 1–9, pl. 7: figs. 2a–d, 3a–b. [Poland.] (Upper Callovian.)

Family HOLASTERIDAE Pictet

Genus *Holaster* Agassiz

UPPER CRETACEOUS

H. feralis Cooke, 1953:26–27, pl. 9: figs. 1–5, pl. 10: fig. 7. [Colorado, U.S.A.] (Turonian.)
H. feruglioi Melinossi, 1935:32–39, figs. 1a–b, 2. [South America.]
H. hermitei Vidal, 1921:12–13, pl. 2: fig. 3, pl. 3: fig. 3, pl. 4: fig. 8. [Spain.] (Santonian.)
H. lorioli Blanckenhorn, 1925[1924]:96. [Palestine, Israel.] (Upper Cenomanian.)
H. marinellii Stefanini, 1928:177–178, pl. 20: figs. 10a–f. [Karakorum, Mongolia.] (Cenomanian.)

H. mortenseni Bernasconi, 1954:397–400, pl. 1. [Tierra del Fuego, Argentina.] (Senonian?)

Lower Cretaceous

H. clypeatulus Nisiyama, 1950b:35–36, figs. 1–3, pl. 4: figs. 8–9. [Japan.] (Albian/Aptian.)
H. lerichei Dartevelle, 1953:131–135, fig. 40, pl. 9: figs. 1–4. [Angola, southwest Africa.] (Upper Albian.)
H. vanhoepeni Besairie and Lambert, 1930:115–116, pl. 10: figs. 1–2. [Zululand, East Africa.] (Albian.)

Genus *Basseaster* Lambert

Upper Cretaceous

Basseaster Lambert, 1936c:25. Type-species: *B. rostratus* Lambert, 1936c:25, pl. 3: figs. 8–12, pl. 4: fig. 10. [Madagascar, off East Africa.] (Maestrichtian.)

Genus *Cardiaster* Forbes

Upper Cretaceous

C. deciper Cooke, 1953:27–28, pl. 10: figs. 3–6. [Arkansas, U.S.A.] (Lower Maestrichtian.)
C. hilli Cooke, 1958:50–51, pl. 7: figs. 9–14. [New Jersey, U.S.A.]
C. leonensis Stephenson, 1941:62–63, pl. 5: figs. 4–7, pl. 6: figs. 5–6. [U.S.A.] (Navarro Group. Maestrichtian.)
C. moabiticus Blanckenhorn, 1925[1924]:96, pl. 7: fig. 24. [Palestine, Israel.] (Santonian.)
C. palmeri Sánchez Roig, 1949:172–173, pl. 5: figs. 3–5. [Cuba.]
C. perorientalis Nisiyama, 1968:151–152, pl. 18: figs. 6–7. [Japan.] (Maestrichtian/Senonian.)

Lower Cretaceous

C. kelleri Haughton, 1924:99–100. [Angola, southwest Africa. See Haughton (1925:279–280) for English translation.] (Upper Albian.)

Genus *Echinocorys* Leske

Paleocene

E. legindensis Wind, 1959:125, pl. 2: figs. 1–6. [Denmark.] (Danian.)
E. obliquus Ravn *assymmetrica* Kongiel, 1935: 205(37), pl. 7: figs. 1a–b, 2a–c, 3. [Poland.] (Danian.)
E. obliquus Ravn *lata* Kongiel, 1935:204(36), pl. 6: figs. 4a–c. [Poland.] (Danian.)
E. obliquus Ravn var. *recta* Kongiel, 1935:205(37), pl. 7: figs. 4a–d. [Poland.] (Danian.)
E. pentagonalis Kongiel, 1949:32–34, figs. 34–61, pl. 17: figs. 8–11, pl. 18: figs. 1–8. [Poland.] (Danian.)
E. semiglobosus Kongiel, 1949:29–30, figs. 34–61, pl. 15: fig. 12, pl. 16: figs. 1–4. [Poland.] (Danian.)

Cretaceous

E. ovatus Leske var. *cubensis* Sánchez Roig, 1926: 88–89, pl. 11: fig. 6, pl. 12: fig. 4. [Cuba.]
E. sulcatus Goldfuss *hannae* Köster, 1950:440–452, figs. 1a–e, 2a–e, 3a–c, 5–6. [Germany.]

Upper Cretaceous

E. belgicus Lambert var. *pruvosti* Smiser, 1935a:30, pl. 2: figs. 2a–d. [Belgium.] (Senonian.)
E. darderi Lambert, 1935b:363–364, pl. 42: figs. 1–2. [Spain.] (Maestrichtian.)
E. edhemi Böhm, 1927:193–194, pl. 12: fig. 1a. [Bithynia, Asia Minor.] (Senonian.)
E. gravesi Desor var. *rossiensis* Kongiel, 1936b: 2–6, pl. 1: figs. 3a–b, pl. 2: figs. 1–4, pl. 3: figs. 1–4. [Poland.]
E. katsharavai Tzaghareli, 1949:179–180, 259–260, fig. 1, pl. 13: figs. 1–3. [Georgia, U.S.S.R.]
E. lamberti Smiser, 1935a:32–33, figs. 14a–b, pl. 2: figs. 3a–d, 4a–d. [Belgium.] (Senonian.)
E. mamontoffi Charles in Lambert and Charles, 1937:386–388, pl. 9: figs. 9–11. [Asia Minor.]
E. ogormani Lambert in Lambert and Charles, 1937:393, fig. 6. [France.]
E. ovatus Leske *cubensis* Sánchez Roig, 1949:175–176, pl. 4: figs. 3–4. [Cuba.]
E. ovatus Leske *villarensis* Sánchez Roig, 1949:176, pl. 21: figs. 1–2. [Cuba.]

E. pustolosus (Leske) *daniensis* Wind, 1959:127–128. [Denmark.] (Senonian.)
E. renngarteni Moskvin, 1959:260–261, fig. 65, pl. 10: figs. 2a–c. [Caucasus, U.S.S.R.]
E. sumbaricus Djabarov, 1968:288–289, fig. 39, pl. 67: figs. 2a–e. [Nedr, U.S.S.R.]
E. tenuituberculatus Leymerie var. *madagascariensis* Besairie, 1930:227, pl. 25: figs. 1, 1a–b. [Madagascar, off East Africa.] (Lower Maestrichtian.)
E. yoloensis Anderson, 1958:85, pl. 6: figs. 1a–d. [California, U.S.A.] (Lower Senonian.)

Genus *Ananchites* Lamarck

Wagner and Durham (Durham et al., 1966:U528) consider *Ananchites* a subjective synonym of *Echinocorys* Leske.

Cretaceous

A. argentinus de Saez, 1930:58–60, 2 figs. [Argentine. De Saez refers to the genus as *Ananchytes.*]
A. austriaca Traub, 1938:39–40, pl. 1: figs. 8a–c. [Germany.]

Genus *Galeola* Quenstedt

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U528) consider *Galeola* a subjective synonym of *Echinocorys* Leske.

Upper Cretaceous

G. papillosa Quenstedt *basiplana* Ernst, 1970:55, fig. 6. [Northwest Germany.] (Upper Campanian.)

Genus *Spatagoides* Bayle

Upper Cretaceous

S. aichinoi Checchia-Rispoli, 1931:3–6, fig. 1, pl. 1: figs. 4–6. [Cirenaica, East Libya.] (Maestrichtian.)
S. martellii Checchia-Rispoli, 1931:7–11, fig. 2, pl. 1: figs. 1–3. [Cirenaica, East Libya.] (Maestrichtian.)
S. striatoradiatus Leske var. *conicus* Smiser, 1935b: 71, pl. 8: fig. 1g. [Holland.] (Maestrichtian.)
S. striatoradiatus Leske var. *depressus* Smiser, 1935b: 71–72, pl. 8: fig. 1h. [Holland.] (Maestrichtian.)
S. striatoradiatus Leske var. *elevatus* Smiser, 1935b: 71, pl. 8: fig. 1e. [Holland.] (Maestrichtian.)
S. tripolitanus Checchia-Rispoli, 1931:11–14, fig. 3, pl. 1: figs. 7–8. [Cirenaica, East Libya.] (Maestrichtian.)

Genus *Galeaster* Seunes

Paleocene

G. carinatus Ravn, 1927:342–343, pl. 2: figs. 9a–d. [Denmark.] (Danian.)
G. dagestanensis Poslavskaia and Moskvin, 1960: 59–60, fig. 9, pl. 2: figs. 6a–e. [Southern U.S.S.R.]

Upper Cretaceous

G.? muntshiensis Tzaghareli, 1949:183–184, 260–261, fig. 2, pl. 13: figs. 6–8. [Georgia, U.S.S.R.]

Genus *Hagenowia* Duncan

Upper Cretaceous

H. blackmorei Wright and Wright, 1949:467–470, figs. 14–16. [England.] (Senonian.)
H. infulasteroides Wright and Wright, 1949:470–472, figs. 17–18. [England.] (Senonian.)

Genus *Martinosigra* Nielson

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U530) consider this genus an objective synonym of *Hagenowia* Duncan.

Upper Cretaceous

Martinosigra Nielsen, 1942:163. Type-species: *Cardiaster rostratus* Forbes. [Europe.] (Senonian.)
M. elongata Nielsen, 1942:163–166, pl. 2: fig. 2. [Denmark.] (Senonian.)

Genus *Hemipneustes* Agassiz

Neogene

H. striatoradiatus d'Orbigny var. *giganteus* Tzankov, 1930:27–29, 71, fig. 1, pl. 1: figs. 1–3. [Bulgaria.] (Aturien.)

Upper Cretaceous

H. nicklesi Vidal, 1921:10–11, figs. 1–2, pl. 2: fig. 1, pl. 3: fig. 1. [Spain.] (Campanian.)
H. perrieri Cottreau, 1935:261–262, pl. 1: figs. 4, 4a–b. [Madagascar, off East Africa.] (Maestrichtian.)
H. sardanyolae Vidal, 1921:11–12, figs. 3–4, pl. 2: fig. 2, pl. 3: fig. 2. [Spain.] (Campanian.)
H. zuffardii Checchia-Rispoli, 1921:30–31, pl. 9: figs. 8–11. [Tripoli, Libya.] (Senonian.)

Genus *Ismidaster* Böhm

Upper Cretaceous

Ismidaster Böhm, 1927:194–195. Type-species. *I. toulai* Böhm, 1927:194–195, pl. 11: figs. 3a–e. [Bithynia, Asia Minor.] (Senonian.)

Genus *Labrotaxis* Casey

Lower Cretaceous

Holaster (Labrotaxis) Casey, 1960:260–261. Type-species: *H. (L.) cantianus* Casey, 1960:261–263, fig. 1, pl. 44: figs. 1–4. [Kent, southeast England.] (Lower Albian.)

Genus *Lampadaster* Cotteau

Upper Cretaceous

L. lamberti Tzankov, 1934:211–212, 220, pl. 4: figs. 1a–b, 2a–b. [Bulgaria.] (Maestrichtian.)

Genus *Pseudananchys* Pomel

Upper Cretaceous

P. rydzewski Kongiel, 1936a:4–5, 9. [Poland.] (Maestrichtian.)
P. stephensoni Cooke, 1953:26, pl. 9: figs. 6–9. [Texas, U.S.A.] (Santonian?)

Genus *Pseudholaster* Pomel

Lower Cretaceous

P. androaviensis Lambert, 1933a:17, pl. 2: fig. 26. [Madagascar, off East Coast of Africa.] (Albian.)

Genus *Pseudoffaster* Lambert

Cretaceous

P. schmidti Moskvin, 1959:270, fig. 79, pl. 17: figs. 1a–c. [Caucasus, U.S.S.R.]

Upper Cretaceous

P. renngarteni Schmidt, 1938:80–82, pl. 25: figs. 1a–5, pl. 26: figs. 1a–3. [U.S.S.R.] (Maestrichtian.)

Genus *Rispolia* Lambert

Upper Cretaceous

R. cottreaui Besairie and Lambert, 1930:107–108, pl. 9: fig. 1. [Madagascar, off East Africa.] (Maestrichtian.)

Genus *Stegaster* Pomel

Upper Cretaceous

S. novoi Lambert, 1931a:M6–M7, fig. 1, pl. 1: figs. 1–4. [Spain.] (Aturien.)

Upper Cretaceous

S. charlesi Lambert, 1931a:M7, fig. 3, pl. 1: figs. 8–9. [Asia Minor.] (Maestrichtian.)

S. mairei Lambert, 1931a:M8, fig. 2, pl. 1: figs. 12–13. [West Africa.]
S. zonarius Lambert, 1931a:M7–M8, pl. 1: fig. 7. [Daghestan, Asiatic Russia.] (Upper Senonian.)

Genus *Seunaster* Lambert in Blayac

In the *Treatise,* Wagner and Durham (Durham et al., 1966:U533) consider *Seunaster* a subjective synonym of *Stegaster* Pomel.

Upper Cretaceous

S. georgicus Rouchadzé, 1940:95–97, 143–144, 164–165, figs. 4a–d, pl. 1: figs. 2a–e. [Georgia, U.S.S.R.] (Maestrichtian/Campanian.)

S. georgicus Rouchadzé *lata* Rouchadzé, 1940:97, 143–144, 164–165, fig. 4d, pl. 1: figs. 2a–e. [Georgia, U.S.S.R.] (Maestrichtian/Campanian.)
S. lamberti Charles in Lambert and Charles, 1937: 383–384, pl. 8: figs. 6–8. [Asia Minor.] (Maestrichtian.)
S. lazicus Rouchadzé, 1940:97–98, 144, 165, figs. 5a–c, pl. 1: figs. 3a–e. [Georgia, U.S.S.R.] (Maestrichtian/Campanian.)

Suborder URECHININA H. L. Clark

RECENT

URECHININA H. L. Clark, 1925a:185. [In the *Treatise* Durham (Durham et al., 1966:U277) states: "The suborder Urechinina was proposed by H. L. Clark (1946) for irregular echinoids with a sternum in which the 'labrum [is] followed by a single plate.' As defined, this suborder includes some but not all of the Holasteroida as proposed subsequently by Durham and Melville (1957)." This taxon is not used in the *Treatise*.]

Family URECHINIDAE Duncan

Genus *Chelonechinus* Bather

MIOCENE

Chelonechinus Bather, 1934:808, 860–861. Type-species: *C. suvae* Bather, 1934:808–809, 811–832, 861, figs. 1–12, pls. 108–110. [Fiji Islands, South Pacific Ocean.]

UNKNOWN

C.? javanensis Bather, 1934:809, 835, 862, fig. 16. [Java, South Pacific, Malay Archipelago.]

Genus *Plexechinus* A. Agassiz

RECENT

P. spectabilis Mortensen, 1948a:110–111. [Philippine Islands.]

Genus *Sternopatagus* de Meijere

RECENT

S. sinensis Bather, 1934:847–848. [China Sea.]

Order POURTALESIOIDA Mintz

POURTALESIOIDA Mintz, 1968:1287–1288.

Family POURTALESIIDAE A. Agassiz

Genus *Pourtalesia* A. Agassiz

RECENT

P. aurorae Koehler, 1926:43–48, pl. 105: figs. 1–8, pl. 121: fig. 3. [Antarctic.]
P. debilis Koehler, 1926:49–51, pl. 105: fig. 9, pl. 106: figs. 1–10, pl. 122: fig. 1. [Antarctic.]
P. laguncula A. Agassiz *beringiana* Baranova, 1955: 340–341, fig. 5. [Bering Sea.]

Family STENONASTERIDAE Lambert

Genus *Stenonaster* Lambert

AGE UNKNOWN

S. douvillei Lambert, 1928d:263–265, figs. 1–2. [France. *Stenonaster* Lambert 1922 replaces *Stonocorys* Lambert and Thiéry, 1917, (not Burmeister, 1835, nor Rambur, 1839) proposed to replace *Stenonia* Desor, 1858, (not Gray, 1853). Found with *Jeronia pyrenaica* and *Echinocorys douvillei* in the "carriere Bourda de la 'Costa Blanche', a l'Est de Mousis, 2 km à l'W de Lasseube."]

Family SOMALIASTERIDAE Wagner and Durham

Genus *Somaliaster* Hawkins

UPPER CRETACEOUS

Somaliaster Hawkins, 1935a:53, 56. Type-species: *S. magniventer* Hawkins, 1935a:53–56, figs. 8–14, pl. 7: figs. 2a–c, 3a–c. [Somaliland, East Africa.] (Upper Senonian.)

S. magniventer Hawkins var. *checchiai* Maccagno, 1941:93–95, pl. 11: figs. 10–11. [North Africa.] (Senonian.)

Genus *Brightonia* Kier

PALEOCENE

Brightonia Kier, 1957b:871–872. Type-species: *B. macfadyeni* Kier, 1957b:872–873, fig. 13, pl. 104: figs. 12–13. [British Somaliland, East Africa.] (Lower Auradu Series.)

Genus *Leviechinus* Kier

PALEOCENE

Leviechinus Kier, 1957b:873–874. Type-species: *Pericosmus gregoryi* Currie. [British Somaliland, East Africa.] (Lower Auradu Series.)

Family Uncertain

Genus *Coraster* Cotteau

PALEOCENE

C. vilanovae Cotteau var. *alapliensis* Lambert in Flandrin, 1929:344–345, pl. 2: figs. 3a–c, 4a–c. [Asia Minor.] (Danian.)

PALEOCENE/UPPER CRETACEOUS

C. deleaui Lambert in Deleau, 1938:186, pl. 5: fig. 2. [Algiers, North Africa.] (Danian-Maestrichtian.)

CRETACEOUS

C. caucasicus Moskvin, 1959:276–277, fig. 87, pl. 18: figs. 3a–c. [Caucasus, U.S.S.R.]

C. cubanicus Moskvin, 1959:277, fig. 88, pl. 18: figs. 4a–c. [Caucasus, U.S.S.R.]

UPPER CRETACEOUS

C. ansaltensis Moskvin, 1959:279, fig. 91, pl. 18: figs. 7a–c. [Dagestan and Turkmenistan, U.S.S.R.]

C. frechi Böhm, 1927:195–196, pl. 12: figs. 5a–b. [Bithynia, Asia Minor.] (Senonian.)

C. manuelitae Sánchez Roig, 1952c:12, pl. 6: figs. 8–9. [Cuba.] (Senonian.)

Genus *Corechinus* Kongiel

PALEOCENE

Corechinus Kongiel, 1936a:3–4, 8–9. Type-species: *C. pulaviensis* Kongiel, 1936a:3–4, 8–9. [Poland. Figured in Kongiel, 1935: pl. 1: fig. 4, pl. 2: figs. 6a–c.] (Middle siwak. Danian.)

Genus *Turanglaster* Solovyev and Melikov

UPPER CRETACEOUS

Turanglaster Solovyev and Melikov, 1963:107. Type-species: *T. nazkii* Solovyev and Melikov, 1963:107–109, fig. 1, pl. 10: figs. 1–2. [Turkmen and Azerbaijan, U.S.S.R.]

Order SPATANGOIDA Claus

Genus *Pictaviechinus* Mintz

MIDDLE JURASSIC

Pictaviechinus Mintz, 1967:2747. Type-species: *Pygomalus* [sic] *pictaviensis* Lambert and Thiéry. [Mintz referred *Pygomalus pictaviensis* Lambert and Thiéry to a new genus, *Pictaviechinus,* but included no description of the genus. *Pictaviechinus* is, therefore, a nomen nudum.] (Bathonian.)

Suborder TOXASTERINA A. G. Fischer

Family TOXASTERIDAE Lambert

Genus *Toxaster* L. Agassiz

UPPER CRETACEOUS

T. millosevichi Checchia-Rispoli, 1936:300–302, pl. 16: figs. 1–1a, pl. 17: fig. 3. [Sicily, southwest of Italy.] (Cenomanian.)

LOWER CRETACEOUS

T. gabrieli Denizot, 1935:141–142, pl. 5: fig. 3. [France.] (Upper Hauterivian.)
T. laffitei Devriès, 1960:21–22, pl. 5: figs. 10–20, pl. 35: figs. 15–16. [Algeria, North Africa. Mintz (1967:2748) referred *Toxaster lafittei* to a new genus *Devriesia* Mintz but included no description of the genus. *Devriesia* is, therefore, a nomen nudum.] (Berriasian.)
T. mattaueri Devriès, 1960:21, pl. 5: figs. 1–9, pl. 35: fig. 2. [Algeria, North Africa.] (Aptian.)
T. maurus Lambert, 1931c:40–41, pl. 2: figs. 13–15. [North Africa.] (Hauterivian.)
T. sanchuensis Tanaka, 1965:131–133, figs. 3a–c, pl. 15: figs. 5a–b, 6a–b, pl. 16: figs. 1a–c, 2a–c. [Japan.] (Neocomian.)

Genus *Pliotoxaster* Fourtau

Fischer (Durham et al., 1966:U551), in the *Treatise,* considers *Pliotoxaster* a subjective synonym of *Toxaster.*

LOWER CRETACEOUS

P. inflatus Smiser, 1936:465, pl. 63: figs. 1, 4, 15, 23–25. [Texas, U.S.A.] (Comanchean.)

Genus *Allotoxaster* Nisiyama

UPPER JURASSIC

Allotoxaster Nisiyama, 1968:181–182. Type-species: *Toxaster tosaensis* de Loriol. [Japan.] (Callovian-Tithonian.)

Genus *Aphelaster* Lambert

LOWER CRETACEOUS

A. serotinus Tanaka and Shibata, 1961:70–72, figs. 1–2, pl. 10: figs. 1–6. [Japan.] (Barremian/Hauterivian.)

Genus *Douvillaster* Lambert

LOWER CRETACEOUS

D. hourcqi Collignon, 1950:11–12, pl. 2: figs. 2–3. [Madagascar, off East Africa.] (Albian.)

Genus *Heteraster* d'Orbigny

LOWER CRETACEOUS

H. adkinsi Lambert, 1927a:270. [Texas, U.S.A.] (Comanche Series.)
H. aguilerai Buitron, 1970:32–34, pl. 7: figs. 1–5. [Barranca Salitrillo, San Juan Raya, Puebla, Mexico.]
H. alencasterae Buitron, 1970:34–35, pl. 6: figs. 1–6. [Barranca Salitrillo, San Juan Raya, Puebla, Mexico.]
H. cesarensis Cooke, 1955:101, pl. 24: figs. 1–4. [Colombia.] (Neocomian.)
H. checchiai Alberti, 1950:133–135, pl. 1: figs. 1–12. [Italian Somaliland, Africa.]
H. danubiensis Chiriac, 1956:87–88, pl. 10: figs. 1a–d, E. [Rumania.] (Aptian.)
H. mattaueri Devriès, 1960:62–63, pl. 13: figs. 1–11. [Algeria, North Africa.] (Upper Albian.)
H. nexilis Nisiyama, 1950a:42–44, figs. 1–3. [Japan.] (Neocomian.)

UPPER JURASSIC

H. musandamensis Lees, 1928:642–643, figs. 9–10, pl. 44: figs. 4a–b. [Arabia.]

Genus *Enallaster* d'Orbigny

In the *Treatise,* Fischer (Durham et al., 1966:U553) considers *Enallaster* a subjective synonym of *Heteraster* d'Orbigny.

LOWER CRETACEOUS

E. roscheni Richards, 1947:39–40, pl. 2: figs. 4–6. [Peru.] (Aptian.)
E. transiens Devriès, 1956a:254–260, pl. 1–3. [Algeria, North Africa.] (Albian.)
E. yuasensis Tanaka and Okubo, 1954:223–224, pl. 7: fig. 6. [Japan.] (Barremian.)

Genus *Epiaster* d'Orbigny

In the *Treatise,* Fischer (Durham et al., 1966:U553) considers *Epiaster* a subjective synonym of *Heteraster* d'Orbigny.

Upper Eocene

E. angolensis Haughton, 1924:101, pl. 4: fig. 5. [Angola, southwest Africa.]

Upper Cretaceous

E. africanus Checchia-Rispoli, 1947a:17–18, pl. 1: figs. 1–1a. [Somaliland, East Africa.] (Cenomanian.)
E. caranoi Checchia-Rispoli, 1947a:16–17, pl. 2: figs. 4–4a. [Somaliland, East Africa.] (Cenomanian.)
E. carvalhoi Dartevelle, 1953:142–143, pl. 10: figs. 1–2. [Angola, southwest Africa.] (Senonian?)
E. chiapasensis Lambert, 1935d:370–371, pl. 16: fig. 22. [Mexico.] (Lower Senonian.)
E. migliorinii Checchia-Rispoli, 1947a:19–20, pl. 1: figs. 5–7. [Somaliland, East Africa.] (Cenomanian.)
E. ovalis Checchia-Rispoli, 1947a:14–15, pl. 2: fig. 5. [Somaliland, East Africa.] (Cenomanian.)
E. pulcher Checchia-Rispoli, 1947a:20–21, pl. 1: figs. 4, 4a–b. [Somaliland, East Africa.] (Cenomanian.)
E. somaliensis Checchia-Rispoli, 1947a:11–14, pl. 1: figs. 2–3, pl. 2: figs. 1–3. [Somaliland, East Africa.] (Cenomanian.)
E. somaliensis Checchia-Rispoli var. *rotundata* Checchia-Rispoli, 1947a:13, pl. 1: fig. 2. [Somaliland, East Africa.] (Cenomanian.)
E. trauthi Kühn, 1925:182–183, 186–187, pl. 11: figs. 5–6. [Austria.] (Maestrichtian?)
E. variabilis Kühn, 1925:181–182, 186–187, pl. 11: figs. 2–4. [Austria.] (Maestrichtian?)

Lower Cretaceous

E. alpinus Lambert and Jeannet, 1928b:116. [France.] (Albian?)
E. angolensis Haughton, 1925:281, pl. 15: fig. 5. [Angola, southwest Africa.] (Upper Albian?)
E. besairiei Lambert, 1933a:18–19, pl. 3: fig. 4. [Madagascar, off East Africa.] (Middle Albian.)
E. boipebensis Brito, 1964:7–8, pl. 1: fig. 1, pl. 2: fig. 3. [Brazil.] (Albian.)
E. blanckenhorni Blanckenhorn, 1925[1924]:98–99, pl. 8: figs. 26–27. [Palestine, Israel.] (Albian.)
E. dartoni Cooke, 1955:108–109, pl. 28: figs. 1–10. [New Mexico, U.S.A.] (Aptian?)
E. fourtaui Lambert, 1931d:190, pl. 6: figs. 5–6. [Egypt.] (Aptian?)
E. jeanneti Collignon, 1950:13–14, pl. 2: figs. 4, 4a–b. [Madagascar, off East Africa.] (Albian.)
E. mortenseni Checchia-Rispoli, 1947a:10–11, pl. 1: figs. 8–9. [Somaliland, East Africa.] (Albian.)
E. renfroae Cooke, 1955:109, pl. 29: figs. 1–4. [Texas, U.S.A.] (Upper Albian?)
E. toxasteroides Lobacheva and Poretskaya, 1967: 182–185, figs. 1–2, pl. 1: figs. 1–9. [Turkmen, U.S.S.R.] (Upper Barremian to lower Aptian.)

Genus *Isomicraster* Lambert

Cretaceous

I. brueti Lambert, 1931c:101–102, pl. 4: figs. 8–9. [Tunis, North Africa.] (Aturien.)

Upper Cretaceous

I. danei Cooke, 1953:29, pl. 11: figs. 11–13. [Arkansas, U.S.A.] (Campanian/Santonian?)
I. faasi Rouchadzé, 1940:124–125, 153–154, 173–174, figs. 16–17, pl. 3: figs. 4a–c. [Georgia, U.S.S.R.]
I. gregalis Böhm, 1927:198–199, pl. 12: figs. 2a–b. [Bithynia, Asia Minor.] (Senonian.)
I. mexicanus Lambert, 1935d:371–372, fig. 2. [Mexico.] (Lower Cenomanian.)
I. rossi Cooke, 1953:29, pl. 11: figs. 15–16. [Texas, U.S.A.] (Turonian.)

Genus *Isopatagus* Mortensen

Recent

Isopatagus Mortensen, 1948a:113.Type-species: *I. obovatus* Mortensen, 1948a:113. [Philippine Islands.]

Genus *Macraster* Roemer

Cretaceous

M. triangularis Sánchez Roig, 1949:217, pl. 34: figs. 1–2. [Cuba.]

Upper Cretaceous

M. meghilensis Lambert, 1931c:100–101, pl. 4: figs. 6–7. [North Africa.] (Cenomanian.)

Lower Cretaceous

Hemiaster (*Macraster*) *cascajalensis* Cooke, 1949b: 85–86, pl. 22: figs. 6–11. [Peru.] (Albian/Neocomian?)

M. denisonensis Smiser, 1936:471, pl. 66: figs. 1–4. [Texas, U.S.A.] Comanchean.)

M. ibizaensis Jeannet, 1934c:387; 1935a:183–185, fig. 3, pl. 1: figs. 4–6. [Balearic Islands, western Mediterranean.] (Aptian/Urgonian.)

M. kentensis Adkins, 1930:106–108, pl. 11: figs. 1–3, 5. [Texas, U.S.A.] (Comanche Series—Ft. Worth and Duck Creek Fms.)

M. obesus Adkins, 1930:116–119, pl. 10: figs. 2–4, pl. 11: fig. 6. [Texas, U.S.A.] (Comanche Series, Weno Fm.)

M. obtritus Lambert, 1931c:67, pl. 3: figs. 8–9. [North Africa.] (Aptian.)

M. pseudoelegans Adkins, 1930:108–110, pl. 10: figs. 1, 5, pl. 11: fig. 4. [Texas, U.S.A.]

M. roberti Lambert var. *ovatus* Smiser, 1936:472, pl. 64: figs. 11–14. [Texas, U.S.A.] (Comanchean.)

M. solitariensis Smiser, 1936:472, pl. 65: figs. 13, 15, 16, 18, 19. [Texas, U.S.A.] (Comanchean.)

Genus *Mokotibaster* Lambert

Upper Cretaceous

Mokotibaster Lambert, 1933a:17–18. Type-species: *M. hourcqi* Lambert, 1933a:18, pl. 3: figs. 1–3. [Madagascar, off East Africa.] (Lower Maestrichtian.)

Genus *Palmeraster* Sánchez Roig

Upper Eocene

Palmeraster Sánchez Roig, 1949:268–269. Type-species: *P. palmeri* Sánchez Roig, 1949:269, pl. 31: figs. 2–4. [Cuba.]

Oligocene

P. japonicus Morishita, 1956:194–195, pl. 2: figs. 1a–c. [Japan.] (Ashiya Group.)

Upper Eocene

P. herrerai Sánchez Roig, 1952b:17–18, pl. 1: figs. 2–3. [Cuba.]

P. zanolettii Sánchez Roig, 1952b:17, pl. 5: figs. 3–4. [Cuba.]

Genus *Paraheteraster* Nisiyama

Lower Cretaceous

Paraheteraster Nisiyama, 1968:188–190. Type-species: *Washitaster? macroholcus* Nisiyama. [Japan.] (Barremian to Albian.)

Genus *Somalechinus* Checchia-Rispoli

Upper Cretaceous

Somalechinus Checchia-Rispoli, 1945[1943]:85–87. Type-species: *S. gibbosus* Checchia-Rispoli, 1945 [1943]:85–87, pl. 1: figs. 1–3. [Somaliland, East Africa.] (Cenomanian.)

Suborder HEMIASTERINA A. G. Fischer

Family HEMIASTERIDAE Clark

Genus *Hemiaster* Agassiz

Eocene

H. despujolsi Lambert, 1937:90, pl. 3: figs. 18–19. [Morocco.]

H. digonus d'Archaic var. *kohaticus* Davies, 1943: 70, pl. 11: figs. 6–9. [India.]

Upper Eocene

H. globulosus Sánchez Roig, 1949:240–241, pl. 42: figs. 11–13. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949:323) says it is Upper Eocene.]

Paleocene

H. hawkinsi Lambert, 1933a:22–23, pl. 4: fig. 19. [Madagascar, off East Africa.] (Danian.)

H. moscovensis Cooke, 1959:68, pl. 28: figs. 5–9. [Alabama, U.S.A.] (Porters Creek Clay.)

H. vistulensis Kongiel, 1936a:5–7, 9. [Poland. Figured by Kongiel, 1935: pl. 5: figs. 2a–c, 3.] (Lower and middle siwak. Danian.)

Cretaceous

H. amelianus Cooke, 1953:35, pl. 16: fig. 1. [Guatemala.]

H. sphericus Lambert, 1935d:372–373, pl. 16: figs. 18–19. [Mexico.] (Between San Bartholomeo and La Concordia.)

Upper Cretaceous

H. amurensis Schmidt in Schmidt and Vereshchaghin, 1960:229, pl. 1: figs. 6–7. [U.S.S.R.]

H. arcolensis Cooke, 1953:32–33, pl. 12: figs. 12–16. [Alabama, U.S.A.] (Santonian.)

H. balboi Airaghi, 1939:263, pl. 10: fig. 1. [North Africa.] (Turonian.)

H. barthouxi Lambert, 1931d:196, pl. 5: figs. 48–49. [Egypt.] (Turonian.)

H. batalleri Lambert, 1933d:187–188, pl. 1: figs. 14–16. [Spain.] (Maestrichtian.)

H. benhurensis Stephenson, 1941:67, pl. 7: figs. 8–10. [U.S.A.] (Navarro Group. Maestrichtian.)

H. besairiei Lambert, 1933a:22. [Madagascar, off East Africa.] (Campanian.)

H. catandubensis Maury, 1934a:155, pl. 16: figs. 2–3. [Brazil, Rio Grande do Norte.] (Turonian.)

H. cedroensis Maury, 1936:280–283, pl. 2: figs. 3, 7. [Brazil.] (Lower Turonian.)

H. cranium Cooke, 1946:226–227, pl. 32: figs. 1–4. [U.S.A.] (Washita Group. Cenomanian.)

H. fourtaui Chiplonker, 1937:64. [India. New name for *Hemiaster cenomanensis* Duncan, 1887, not Cotteau, 1887; *H. oldhami* Fourtau, 1918; not Noetling, 1897.] (Lower Cenomanian.)

H. gemellaroi Checchia-Rispoli, 1936:302–303, pl. 16: figs. 5–5a, pl. 17: figs. 4–4a. [Sicily, southwest Italy.] (Cenomanian.)

H. gonzalezmunozi Sánchez Roig, 1953c:170–171, pl. 11: figs. 3–4. [Cuba.]

H. heteropneustes Lambert, 1936c:28–29, pl. 4: figs. 20–22. [Madagascar, off East Africa.] (Maestrichtian.)

H. holoambitatus Chiplonker, 1937:64–65, pl. 6: figs. 4a–c. [India.] (Lower Cenomanian.)

H. integer Lambert, 1933a:21–22, pl. 3: figs. 5–6. [Madagascar, off East Africa.] (Upper Turonian.)

H. jacksoni Maury, 1925:518–521. [Brazil.] (Turonian?)

H. jacobi Besairie and Lambert, 1930:109, pl. 9: figs. 2–3. [Madagascar, off East Africa.] (Maestrichtian.)

H. judinkensis Schmidt in Schmidt and Vereshchaghin, 1960:228–229, pl. 1: figs. 1–4. [U.S.S.R.]

H. labriei Lambert, 1936d:84–85, fig. 1, pl. 6: figs. 5–7. [France.] (Upper Senonian.)

H. lamberti Sánchez Roig, 1949:238–239, pl. 35: figs. 7–8. [Cuba.]

H. latesulcatus Lambert, 1936a:206, pl. 24: figs. 3–4. [Madagascar, off East Africa.]

H. madagascariensis Cottreau, 1922a:118–120, pl. 2: figs. 1–8. [Madagascar, off East Africa.] (Upper Senonian.)

H. madagascariensis Cottreau *nana* Lambert, 1936a: 205, pl. 24: figs. 5–6. [Madagascar, off East Africa.] (Maestrichtian.)

H. madrugensis Weisbord, 1934:35–37, pl. 3: figs. 4–6. [Cuba.]

H. mutabilis Lambert, 1933a:20–21, pl. 3: figs. 7–8. [Madagascar, off East Africa.] (Upper Turonian.)

H. narindensis Lambert, 1933a:24, fig. 2. [Madagascar, off East Africa.] (Upper Maestrichtian.)

H. oliveirai Marchesini Santos and de Souza Cunha, 1959:13–15, pl. 3: figs. 1–4. [Brazil.] (Maestrichtian.)

H. parallelus Lambert, 1936a:206, pl. 24: figs. 1–2. [Madagascar, off East Africa.] (Upper Senonian?)

H. paronai Checchia-Rispoli, 1921:27–29, pl. 8: fig. 24, pl. 9: figs. 14, 18. [Tripoli, Libya.] (Senonian.)

H. pseudoanticus Lambert, 1933a:21, pl. 2: figs. 27–28. [Madagascar, off East Africa.] (Upper Turonian.)

H. rioupanemensis Maury, 1925:502–505, pl. 24: fig. 10. [Brazil.]

H. sabinal Cooke, 1953:34, pl. 13: figs. 7–10. [Texas, U.S.A.] (Santonian/Coniacian?)

H. sanctisebastiani Maury, 1925:508–511, pl. 24: fig. 13. [Brazil.]

H. schoelleri Lambert, 1938a:277–278, pl. 19: figs. 1–3. [Tunis, North Africa.] (Upper Cenomanian.)

H. siboneyensis Weisbord, 1934:37–39, pl. 3: figs. 7–9. [Cuba.]

H. stoliczkai Stefanini, 1928:179–180, pl. 21: figs. 2a–d, 3a–d. [Karakorum, Mongolia.] (Cenomanian.)

H. teilhardi Basse, 1928:115–116, figs. 3–4, pl. 7: figs. 1a–b. [South America.] (Cenomanian?)
H. tubillensis Lambert, 1935f:519–520, pl. 57: figs. 10–11. [Spain.] (Upper Campanian.)
H. uwajimensis Morishita, 1962:114–115, pl. 1: figs. 1–7. [Shikoku, Japan.] (Lower part of Yoshida group.)

Lower Cretaceous

H. hourcqi Lambert, 1936c:28, pl. 2: figs. 7–8. [Madagascar, off East Africa.] (Lower Albian.)
H. reineckei Haughton, 1924:102–103, pl. 4: fig. 4; 1925:282–283, pl. 15: fig. 4. [Angola, southwest Africa.] (Upper Albian.)
H. stefaninii Lang in Montanaro-Gallitelli and Lang, 1937:204–205, pl. 9: fig. 12. [Zululand, Africa.] (Albian.)
H. zululandensis Besairie and Lambert, 1930:116, pl. 10: figs. 3–4. [Zululand, East Africa.] (Albian.)

Subgenus *Hemiaster* (*Mecaster*) Pomel

Upper Cretaceous

H. (M.) chirakhanensis Chiplonker, 1939:240–241, pl. 25: figs. 4a–b. [India.] (Cenomanian.)

Subgenus *Hemiaster* (*Trachyaster*) Pomel

In the *Treatise,* Fischer (Durham et al., 1966:U559) considers *Trachyaster* Pomel a subgenus of *Hemiaster.*

Middle Miocene

T. aichinoi Checchia-Rispoli, 1927:2–5, figs. 1–3, pl. 1: figs. 1–2. [Cyrenaica, Eastern Libya.]
T. hlinnensis Seneš, 1955:26–27, pl. 1: fig. 3. [Eastern Slovakia.] (Helvetian.)

Upper Cretaceous

T. minutus Sánchez Roig, 1949:241–242, pl. 42: figs. 6–8. [Cuba.]
T. simpaticus Sánchez Roig, 1949:242–243, pl. 42: figs. 3–5. [Cuba.] (Maestrichtian.)

Genus *Crucibrissus* Lambert

Upper Eocene

C. cabrerai Sánchez Roig, 1953a:67, pl. 10(pars), pl. 21. [Cuba.]

Middle Eocene

C. abichi Meffert, 1931:38–39, pl. 6: figs. 10–11. [Armenia.] (Lutetian.)

Genus *Distefanaster* Checchia-Rispoli

Upper Cretaceous

D. pygmeus Lambert, 1933a:25, pl. 4: fig. 18. [Madagascar, off East Africa.] (Upper Maestrichtian.)

Genus *Ditremaster* Munier-Chalmas

Oligocene

Opissaster (Ditremaster) oligocenicus Stchépinsky, 1943a:225, 238–239, pl. 1: fig. 6; 1943b:225, pl. 1: fig. 6. [Turkey.]

Middle Eocene

D. granosus Lambert, 1933a:40, pl. 4: fig. 17. [Madagascar, off East Africa.] (Lutetian.)
D. olbrechtsi Dartevelle, 1953:148-153, figs. 48–50, pl. 11: figs. 1–5. [Congo and Angola, South Africa.] (Lutetian.)

Genus *Hernandezaster* Sánchez Roig

Upper Oligocene

Hernandezaster Sánchez Roig, 1949:211–212. Type-species: *H. hernandezi* Sánchez Roig, 1949: 212–213, pl. 33: figs. 3–5. [Cuba.]

Genus *Holcopneustes* Cotteau

Miocene

H.? pomeyroli Jeannet, 1952:413–416, pl. 12: figs. 1–5. [New Caledonia, southwest Pacific Ocean east of Queensland, Australia.]

Lower Eocene

H. obtritus Lambert, 1933a:40, pl. 4: fig. 11. [Madagascar, off East Africa.] (Lower Lutetian.)

Paleocene

H. narindensis Lambert, 1933a:24–25, pl. 4: figs. 8–10. [Madagascar, off East Africa.] (Danian.)

Genus *Opissaster* Pomel

Miocene

O. herrerae Lambert and Roig in Sánchez Roig, 1926:126–127, pl. 40: figs. 1–2, pl. 41: fig. 3. [Cuba.]

Middle Miocene

O. rozieri Lambert, 1928b:124–125. [France.] (Helvetian.)

Lower Miocene

O. kugleri Jeannet, 1928a:41–42, pl. 5: figs. 3–5, pl. 6: fig. 12; 1928b:220. [Venezuela.] (Serie superieure de Agua Salada.)

Eocene

O. somaliensis Currie, 1925:71–74, fig. 14, pl. 10: figs. 8a–c, 9, 10, 11a–b, 12. [Somaliland, East Africa.]

Middle Eocene

O. derasmoi Checchia-Rispoli, 1950a[1945–1946]: 32–35, pl. 1: figs. 6–7. [Somaliland, East Africa.]
O. derasmoi Checchia-Rispoli var. *angulatus* Kier, 1957b:879–880, pl. 105: figs. 7–9. [British Somaliland, East Africa.] (Karkar Series.)

Lower Eocene

O. farquharsoni Currie, 1927:438–441, figs. 4a–c. [Somaliland, East Africa.]

Paleocene

O. auraduensis Kier, 1957b:876–877, fig. 15a, pl. 105: figs. 3–5. [British Somaliland, East Africa.] (Lower Auradu Series.)

Upper Cretaceous

O. cantabriae Sánchez Roig, 1953c:171–172, pl. 11: figs. 5–6. [Cuba.]

Genus *Palhemiaster* Lambert

Lower Cretaceous

P. ibericus Jeannet, 1934c:388; 1935a:181–183, figs. 1–2, pl. 1: figs. 1–3. [Balearic Islands, western Mediterranean.] (Aptian/Urgonian.)

Genus *Sarsiaster* Mortensen

Recent

Sarsiaster Mortensen, 1950b:157–158. Type-species: *S. griegii* Mortensen, 1950b:157–158. [North Atlantic.]

Genus *Tessieria* Collignon

Upper Cretaceous

Tessieria Collignon, 1949:263. Type-species: *T. senegalensis* Collignon, 1949:263–268, figs. 1–2, pl. 9a: figs. 1–5. [Senegal, West Africa.] (Maestrichtian.)

Genus *Washitaster* Lambert

Lower Cretaceous

W. barremicus Tanaka and Okubo, 1954:220, pl. 7: fig. 3. [Japan.] (Barremian.)
W. japonicus Tanaka and Okubo, 1954:220–221, pl. 7: fig. 4. [Japan.] (Albian.)
W.? macroholcus Nisiyama, 1950a:44–46, figs. 4–6. [Japan.] (Neocomian.)

Family PALAEOSTOMATIDAE Lovén

Genus *Paleostoma* Lovén

Eocene

P. rochi Lambert, 1937:88–89, pl. 3: figs. 15–17. [Morocco.]

Genus *Leiostomaster* Lambert

Lower Cretaceous

L. bosei Smiser, 1936:476, pl. 64: figs. 4–8. [Texas, U.S.A.] (Comanchean.)

Genus *Ornithaster* Cotteau

Upper Cretaceous

O. cordiformis Böhm, 1927:196–197, pl. 12: figs. 3a–b. [Bithynia, Asia Minor.] (Senonian.)
O. sokolovi Moskvin, 1959:275, fig. 84, pl. 18: figs. 8a–c, 9a–b. [Caucasus, U.S.S.R.]

Family PERICOSMIDAE Lambert

Genus *Pericosmus* L. Agassiz

Recent

P. abatoides H. L. Clark, 1925a:199–200, pl. 11: figs. 4–6. [East end of Barrier Island, South Pacific Ocean.]
P. akabanus Mortensen, 1939c:38–42, pl. 3: figs. 1–6, pl. 4: figs. 1–16. [Red Sea.]
P. bidens Mortensen, 1950b:158. [Mauritius, east of Madagascar in the Indian Ocean.]
P. cordatus Mortensen, 1950b:158. [Golo Islands, Japan.]
P. keiensis Mortensen, 1950b:159. [Kei Islands, Indonesia.]
P. mauritianus Mortensen, 1950b:159. [Mauritius, east of Madagascar in the Indian Ocean.]
P. melanostomus Mortensen, 1948a:119–120. [China Sea.]
P. oblongus Mortensen, 1950b:159. [Bali Sea, western Pacific Ocean.]
P. tenuis Mortensen, 1950b:159. [Mauritius, east of Madagascar in the Indian Ocean.]

Pliocene

P. schencki Israelsky, 1933b:306–307, pl. 3: figs. 1–2, pl. 4: fig. 1. [Philippine Islands, South Pacific Ocean.]

Miocene

P. artemisae Sánchez Roig, 1953c:168–169, pl. 11: fig. 1. [Cuba.]
P. magnificus Nisiyama, 1968:269–272, pl. 28: figs. 1–2. [Japan.] (Aijiri Fm.)
P. valenzuelai Sánchez Roig, 1953c:167–168, pl. 10: fig. 5. [Cuba.]

Middle Miocene

P. israelskyi Durham, 1961a:481, 483, figs. 1I, 1L, 2E, pl. 67: figs. 5, 8, 11. [Costa Rica.] (Burdigalian/Helvetian.)
P. stehlini Jeannet, 1928a:43–44, pl. 4: figs. 21–24; 1928b:220. [Venezuela.] (Damsite series.)

Lower Miocene

P. stefaninii Socin, 1942:49–50. [Somaliland, East Africa.]

Upper Oligocene

P. blanquizalensis Sánchez Roig, 1952c:21, pl. 13: fig. 2. [Cuba.]
P. camagueyanus Sánchez Roig, 1949:246–247, pl. 38: figs. 1–2. [Cuba.]
P. delgadoi Sánchez Roig, 1953a:65, pl. 16(pars). [Cuba.]
P. giganteus Sánchez Roig, 1952c:21–22, pl. 13: fig. 1, pl. 14: fig. 1. [Cuba.]

Middle Oligocene

P. gardensis Venzo, 1933:210–211, pl. 12: fig. 2. [Italy.] (Rupelian.)

Eocene

P. rojasi Sánchez Roig, 1951:60–61, pl. 36: figs. 2–3. [Cuba.]

Upper Eocene

P. cubanus Palmer in Sánchez Roig, 1949:248. [Cuba.]
P. zanolettii Sánchez Roig, 1953c:169–170, pl. 11: fig. 2. [Cuba.]

Middle Eocene

P. clarki Lambert, 1933a:41, pl. 3: fig. 14. [Madagascar, off East Africa.] (Lutetian.)

Lower Eocene

P. gregoryi Currie, 1927:430, figs. 7a–b. [Somaliland, East Africa.]

Subgenus *Pericosmus* (*Lambertona*) Sánchez Roig

Lower Eocene

Lambertona Sánchez Roig, 1953b:257. Type-species: *Victoriaster lamberti* Sánchez Roig. [Cuba.]

Subgenus *Pericosmus* (*Victoriaster*) Lambert

Tertiary

V. jamaicensis Arnold and H. L. Clark, 1934:150, pl. 3: figs. 1–3. [Jamaica, West Indies.]

Lower Miocene

V. lamberti Sánchez Roig, 1926:129–130, pl. 42: fig. 1, pl. 43: fig. 1. [Cuba.]

Genus *Mundaster* Soares and Devriès

Upper Cretaceous

Mundaster Soares and Devriès, 1967:8. Type-species: *M. tentugalensis* Soares and Devriès, 1967:8–10, fig. 2, pl. 1: figs. 1–9. [Casal Novo do Rio and Carapinheira, Portugal.] (Upper Cenomanian to lower Turonian.)

Family SCHIZASTERIDAE Lambert

Genus *Schizaster* L. Agassiz

Pliocene

S. alsiensis Maccagno, 1947a:116–121, pl. 1: figs. 1–4. [Rome, Italy.]
S. jeanneti Martin in Jeannet and Martin, 1937: 293–295, figs. 63a–c, 64. [Dutch East Indies, western Pacific Ocean.]
S. morlini Grant and Hertlein, 1956:107–109, pl. 29: figs. 1–8. [California, U.S.A.]
S. portisi Serra, 1932:888–893, fig. 1. [Italy.]
S. pratti Israelsky, 1933b:305–306, pl. 4: figs. 2–3, pl. 5: figs. 1–4. [Philippine Islands, South Pacific Ocean.]

Middle Pliocene

S. excavatus Martin in Jeannet and Martin, 1937: 292–293, figs. 62a–b. [Dutch East Indies, western Pacific Ocean.]

Lower Pliocene

S. kinasaensis Morishita, 1953:224–225, pl. 1: fig. 8. [Japan.] (Middle part of Ogawa Fm.)

Miocene

S. minihagali Deraniyagala, 1956:4, pl. 3: figs. 3–4. [Ceylon, Indian Ocean.]
S. miyazakiensis Morishita, 1956:197–199, pl. 3: figs. 1a–d, 2a–d, pl. 4: figs. 1a–d. [Japan.] (Miyazaki Group.)

Upper Miocene

S. costaricensis Durham, 1961a:483–484, figs. 1C, 1F, 2G, 2H, pl. 68: figs. 8, 10, 11, 13. [Costa Rica.]

Lower Miocene

S. guirensis Sánchez Roig, 1949:278–279, pl. 43: figs. 4–5. [Cuba.]
S. salutis Sánchez Roig, 1949:278, pl. 45: figs. 3–4. [Cuba.]

S. sanctamariae Sánchez Roig, 1949:272, pl. 44: figs. 4–5. [Cuba. Although Sánchez Roig cites it as Upper Cretaceous, Brodermann (1949:328) says it is Upper Oligocene to Lower Miocene.]

Oligocene

S. moronensis Sánchez Roig, 1951:58–59, pl. 36: figs. 4–5. [Cuba.]

Upper Oligocene

S. cojimarensis Sánchez Roig, 1949:270, pl. 44: figs. 1, 3. [Cuba.]
S. dumblei Israelsky, 1924:141. [Mexico.]
S. habanensis Sánchez Roig, 1949:270–271, pl. 45: figs. 1–2. [Cuba.]
S. llagunoi Lambert and Roig in Sánchez Roig, 1949:274–275. [Cuba. Although Lambert cites it as Miocene, Brodermann (1949:328) says it is Middle Eocene/Upper Oligocene.]
S. munozi Sánchez Roig, 1949:277, pl. 43: figs. 1–3. [Cuba.]
S. vedadoensis Sánchez Roig, 1949:271–272, pl. 45: fig. 8. [Cuba.]

Eocene

S. altissimus Arnold and H. L. Clark, 1927:58, pl. 11: figs. 11–13. [Jamaica, West Indies.]
S. bathypetalus Arnold and H. L. Clark, 1927: 58–59, pl. 12: figs. 1–4. [Jamaica, West Indies.]
S. brachypetalus Arnold and H. L. Clark, 1927: 59–60, pl. 11: figs. 14–16. [Jamaica, West Indies.]
S. dyscritus Arnold and H. L. Clark, 1927:61, pl. 12: figs. 7–9. [Jamaica, West Indies.]
S. hexagonalis Arnold and H. L. Clark, 1927:61–62, pl. 12: figs. 10–11, pl. 13: figs. 1–3. [Jamaica, West Indies.]
S. narindensis Lambert, 1933a:43, pl. 4: fig. 23. [Madagascar, off East Africa.]
S. pappi Thirring, 1936:56–57, pl. 2: fig. 17. [Hungary.]

Upper Eocene

S. beckeri Cooke, 1942:40, pl. 3: figs. 5–8. [U.S.A.]
S. caobaense Sánchez Roig, 1949:273–274, pl. 44: fig. 2. [Cuba.] (Priabonian.)
S. gerthi Pijpers, 1933:96–97, fig. 157, pl. 1: fig. 19, pl. 2: figs. 10–12. [Dutch West Indies, Netherland Antilles, off Venezuelan coast.]
S. humei Lambert, 1931d:204, pl. 5: figs. 12–14. [Egypt.] (Priabonian.)
S. santanae Sánchez Roig, 1949:281–282, pl. 45: figs. 5–7. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949:328) says it is Middle to Upper Eocene.]

Middle Eocene

S. delorenzoi Checchia-Rispoli, 1950a[1945–1946]: 35–36, pl. 2: figs. 5, 5a–c. [Somaliland, East Africa.]
S. gigas Sánchez Roig, 1953a:66, pl. 20. [Cuba.]
S. marci Castex, 1930:53–54, pl. 4: figs. 9–12. [France.] (Upper to Middle Lutetian.)
S. pentagonalis Sánchez Roig, 1953a:65–66, pl. 19. [Cuba.]

Lower Eocene

S. alcaldei Sánchez Roig, 1949:273, pl. 32: fig. 4. [Cuba. Brodermann (1949:327) says it is Lower Eocene.]
S. eopneustes Lambert, 1933a:42, pl. 3: fig. 15. [Madagascar, off East Africa.]
S. leprosorum Lambert, 1933a:42, fig. 8. [Madagascar, off East Africa.]
S. persica Clegg, 1933:13–14, pl. 1: figs. 6a–c, 7a–c. [Persia (Iran).]

Upper Paleocene

S. schlosseri Traub, 1938:40, pl. 1: figs. 9a–b. [Germany.] (Thanetian.)

Genus *Aplospatangus* Lambert

In the *Treatise,* Fischer (Durham et al., 1966:U569) considers *Aplospatangus* a subjective synonym of *Schizaster* L. Agassiz.

Miocene

Schizaster (*Aplospatangus*) *rojasi* Sánchez Roig, 1952c:25–26, pl. 15: figs. 1–3. [Cuba.]

Lower Miocene

S. (A.) riveroi Sánchez Roig, 1952c:27, pl. 15: figs. 4–5. [Cuba.]

Subgenus *Schizaster* (*Schizaster*) L. Agassiz

Miocene

S. (S.) fernandezi Sánchez Roig, 1952c:25, pl. 9: fig. 3. [Cuba.]

Subgenus *Schizaster* (*Hypselaster*) Clark

Recent

H. affinis Mortensen, 1948a:121–123. [Philippine Islands.]
H. dolosus H. L. Clark, 1938:430–432, pl. 28: figs. 4–7. [Western Australia.]

Eocene

H. perplexus Arnold and H. L. Clark, 1927:56–57, pl. 11: figs. 8–10. [Jamaica, West Indies.]

Subgenus *Schizaster* (*Paraster*) Pomel

Recent

Paraster erythraeus Tortonese, 1932:1–6, figs. 1–7. [Red Sea.]
Schizaster (Paraster) floridiensis Kier and Grant, 1965:50–54, fig. 15, pl. 13: figs. 4–6, pl. 14: figs. 1–9. [Florida, U.S.A.]

Pleistocene

P. sierrai Sánchez Roig, 1951:63–64, pl. 40: fig. 1. [Cuba.]

Pliocene

P. eustatii Engel, 1961:3–5, figs. 1–4. [Lesser Antilles, West Indies.]
P. hyperocus H. L. Clark, 1945:323–324, pl. 42: figs. L–M, pl. 43: fig. A. [Fiji, South Pacific Ocean.]

Miocene

P. saipanicus Cooke, 1957:363–364, pl. 119: figs. 18–21. [Mariana Islands, Western Pacific Ocean.]
P. tampicoensis Israelsky, 1924:140. [Mexico.]

Oligocene

P. tschopi Palmer in Sánchez Roig, 1949:290–291, pl. 46: fig. 1. [Cuba. Although Palmer says this is Upper Eocene, Brodermann (1949:325) says it is Lower to Upper Oligocene.]

Eocene

P. camagueyensis Weisbord, 1934:68–70, pl. 7: figs. 9–11. [Cuba.]
P. delgadoi Sánchez Roig, 1953c:174, pl. 12: figs. 5–6. [Cuba.]
S. (P.) taiwanicus Hayasaka, 1948:98–101, pl. 2: fig. 4, pl. 5: figs. 2–5. [China.] (Slate Fm.)

Upper Eocene

P. cubitabellae Weisbord, 1934:72–74, pl. 7: figs. 15–16. [Cuba.]
P. nuevitasensis Weisbord, 1934:67–70, pl. 7: figs. 7–8. [Cuba.]
P. orientalis Sánchez Roig, 1949:289–290, pl. 46: figs. 2–3. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949:325) says it is Middle to Upper Eocene.]
P. pastelilloensis Weisbord, 1934:70–72, pl. 7: figs. 12–14. [Cuba.]
P. pinarensis Sánchez Roig, 1953c:173–174, pl. 12: figs. 3–4. [Cuba.]

Middle Eocene

S. (P.) karkarensis Kier, 1957b:883–884, pl. 106: figs. 1–3. [British Somaliland, East Africa.] (Karkar Series.)

Paleocene

S. (P.) duroensis Kier, 1957b:885–886, pl. 106: figs. 11–14. [British Somaliland, East Africa.] (Lower Auradu Series.)

S. (P.) hunti Kier, 1957b:882–883, pl. 106: figs. 5–7. [British Somaliland, East Africa.] (Lower Auradu Series.)

Genus *Abatus* Troschel

Recent

A. curvidens Mortensen, 1936a:226–228, pl. 3: fig. 9, pl. 9: figs. 17–20. [Antarctic Ocean.]
A. ingens Koehler, 1926:58–65, pl. 111: fig. 9, pl. 113: fig. 7, pl. 117: figs. 3–5, 7–8, pl. 118: figs. 1–7, pl. 123: figs. a–k. [Antarctic.]

Genus *Agassizia* Agassiz and Desor

Miocene

A. algarbiensis Da Veiga Ferreira, 1962:293–295, pl. 1: figs. 1–6. [Portugal.]
A. cyrenaica Desio, 1929:340–342, pl. 39: figs. 3a–d. [Oasis of Giarabùb, Libya.]
A. cyrenaica Desio var. *pseudoclevei* Desio, 1929: 343–344, pl. 39: figs. 4a–c. [Oasis of Giarabùb, Libya.]
A. cyrenaica Desio var. *pseudoinflata* Desio, 1929: 342–343, pl. 40: figs. 2a–c. [Oasis of Giarabùb, Libya.]
A. pinarensis Sánchez Roig, 1952c:22–23, pl. 6: figs. 6–7. [Cuba.]
A. scrobiculata Valenciennes var. *persica* Clegg, 1933:29–30, pl. 3: figs. 6a–d. [Persia (Iran).]

Lower Miocene

A. regia Israelsky, 1924:142. [Mexico. Although Israelsky considered the Tuxpam Beds, from where this species was collected, to be Oligocene, these beds are now (Masuda, 1971:215–216) considered to be Early Miocene.]

Oligocene

A. avilensis Sánchez Roig, 1949:260, pl. 41: figs. 4–6, 8. [Cuba.]
A. camagueyana Weisbord, 1934:83–84, pl. 9: figs. 5–6. [Cuba.]
A. guanensis Sánchez Roig, 1951:62–63, pl. 39: figs. 4–5. [Cuba.]

Upper Oligocene

A. alveari Sánchez Roig, 1949:258–259, pl. 41: fig. 7. [Cuba.]
A. lamberti Palmer var. *oligocenicus* Palmer in Sánchez Roig, 1949:261–262, pl. 38, fig. 5. [Cuba. Although Palmer says it is Lower Oligocene, Brodermann (1949:316) says it is Upper Oligocene.]

Lower Oligocene

A. lamberti Palmer in Sánchez Roig, 1949:261, pl. 41: fig. 11. [Cuba. Although Palmer says it is Upper Eocene, Brodermann (1949:316) says it is Lower Oligocene.]

Upper Eocene

A. caribbeana Weisbord, 1934:74–76, pl. 8: figs. 1–6. [Cuba.]
A. flexuosa Sánchez Roig, 1949:257–258, pl. 41: figs. 9–10. [Cuba.]

Middle Eocene

A. caobaensis Sánchez Roig, 1953c:172–173, pl. 12: figs. 1–2. [Cuba.]

Subgenus *Agassizia* (*Anisaster*) Pomel

Upper Oligocene

A. (A.) mossomi Cooke, 1942:46–47, pl. 5: figs. 14–17. [U.S.A.]
A. (A.) wilmingtonica Cooke, 1942:46, pl. 5: figs. 9–13. [U.S.A.]

Genus *Eoagassizia* Grant and Hertlein

In the *Treatise,* Fischer (Durham et al., 1966:U575) considers *Eoagassizia* a subjective synonym of *Agassizia (Anisaster)* Pomel.

Eocene

Eoagassizia Grant and Hertlein, 1938b:115–116. Type-species: *E. alta* Alex Clark in Grant and Hertlein, 1938b:116–117, fig. 11, pl. 12: figs. 5–7. [California, U.S.A.] (Probably Sierra Blanca.)

Genus *Amphipneustes* Koehler

RECENT

A. bifidus Mortensen, 1950a:304–305, pl. 7: figs. 1–3, pl. 9: figs. 1, 7–9. [Antarctic.]
A. similis Mortensen, 1936a:231–233, pl. 4: figs. 1–7, pl. 9: figs. 21–26. [Antarctic Ocean.]

Genus *Antipneustes* Koehler (nom. van.)

In the *Treatise, Fischer* (Durham et al., 1966:U575) considers *Antipneustes* a synonym of *Amphipneustes* Koehler.

RECENT

A. brevisternalis Koehler, 1926:83–87, pl. 112: figs. 2–6, pl. 124: fig. 3. [Antarctic.]
A. marsupialis Koehler, 1926:79–83, pl. 115: figs. 2, 5, 7–9, pl. 124: fig. 2. [Antarctic.]
A. rostratus Koehler, 1926:70–76, pl. 114: figs. 1–6, pl. 115: figs. 1, 3, 4, 6, pl. 116: figs. 1–6, pl. 117: figs. 1, 2, 6, 9, pl. 124: fig. 1. [Antarctic.]
A. tumescens Koehler, 1926:76–79, pl. 113: figs. 1–6. [Antarctic.]

Genus *Brisaster* Gray

RECENT

B. owstoni Mortensen, 1950b:160. [Japan. Gulf of Tokio and Sagami Sea.]

RECENT/PLIOCENE

B. townsendi A. Agassiz *woynari* Hertlein and Grant, 1960:132–133, pl. 25: fig. 5, pl. 26: figs. 1–3. [Southern California, U.S.A.] (San Diego Fm.)

OLIGOCENE

B. maximus H. L. Clark, 1937b:368, pl. 24: fig. 9. [Oregon, U.S.A.] (Refugian Stage.)

Genus *Cagaster* Nisiyama

MIOCENE

Cagaster Nisiyama, 1968:248–249. Type-species: *Schizaster recticanalis* Yoshiwara. [Japan.]

Genus *Diploporaster* Mortensen

RECENT

Diploporaster Mortensen, 1950b:160. Type-species: *D. barbatus* Mortensen, 1950b:160. [Zanzibar, East Africa, Indian Ocean.]

Genus *Sinaechinus* Hayasaka

In the *Treatise,* Fischer (Durham et al., 1966:U576) considers *Sinaechinus* a subjective synonym of *Faorina* Gray.

RECENT/PLIOCENE

Sinaechinus Hayasaka, 1948: 93–94. Type-species: *S. kawaguchii* Hayasaka, 1948:94–96, pl. 3: figs. 1–5, pl. 4: figs. 1a–c. [China.]

Genus *Hemifaorina* Jeannet and Martin

MIOCENE

Hemifaorina Jeannet and Martin, 1937:289. Type-species: *Hemiaster tuber* Herklots. [Java, Indonesia.]

Genus *Linthia* Desor

TERTIARY

L. obesa Arnold and H. L. Clark, 1934:148–149, pl. 2: figs. 4–6. [Jamaica, West Indies.]

MIOCENE

L. taiwanensis Hayasaka, 1948:90–93, pl. 1: figs. 1a–b, pl. 2: figs. 1a–b. [China.] (Kansirei Fm., upper Kaizan Gp.)

Paleogene

L. desioi Airaghi, 1934:73–74, pl. 5: figs. 12–14. [Libya, North Africa.]
L. praenipponica Nagao, 1928:18, pl. 1: figs. 1–4. [Japan.]
L. yessoensis Minato, 1950:158–159, figs. 1–2. [Japan.] (Lower Corbicula bed of the Ishikari Series.)

Oligocene

L. boreasteria Nisiyama, 1968:240–243, figs. 71a–b, 72a. [Northern Japan.] (Nissikutan Fm.)

Eocene

L. atolladosae Sánchez Roig, 1951:59–60, pl. 34: figs. 1–2. [Cuba.]
L. bulgarica Gočev, 1933:56–58, figs. 12–14, pl. 5: fig. 1, pl. 6: fig. 1. [Bulgaria.]
L. heimei Jeannet, 1936c:56–59, figs. 6–8. [Switzerland.]
L. mortenseni Checchia-Rispoli, 1950b:36–38, pl. 1: figs. 4–4a. [Northeast Somalia, East Africa.]
L. mortenseni Checchia-Rispoli var. *depressa* Checchia-Rispoli, 1950b:38, pl. 1: figs. 5, 5a–b. [Northeast Somalia, East Africa.]
L. pseudoglobalis Thirring, 1936:60–61, pl. 1: figs. 6–8. [Hungary.]
L. suitensis Jeannet, 1936c:65–69, figs. 13–15. [Switzerland.]

Upper Eocene

L. balboi Airaghi, 1939:275–276, pl. 11: fig. 13. [North Africa.]
L. caraibensis Jeannet, 1928a: 16–17, pl. 1: figs. 22–26, pl. 6: fig. 3; 1928b:220. [Trinité, off the coast of Venezuela.] (Priabonian or Jacksonian.)
L. garciai Sánchez Roig, 1952c:24, pl. 9: fig. 2. [Cuba.]
L. hanoverensis Kellum, 1926:15–16, pl. 1: figs. 8–9. [North Carolina, U.S.A.]
Schizaster (Linthia) ocalanus Cooke, 1942:42–43, pl. 5: figs. 18–22. [U.S.A.]

Middle Eocene

L. darderi Lambert, 1935b:369–370, pl. 41: fig. 7. [Spain.] (Lutetian.)
L. mortenseni Checchia-Rispoli, 1950a[1945–1946]: 36–38, pl. 1: figs. 4–5. [Somaliland, East Africa.]
L. mortenseni Checchia-Rispoli var. *depressa* Checchia-Rispoli, 1950a[1945–1946]:37–38, pl. 1: figs. 5, 5a–b. [Migiurtinia(?), Somaliland, East Africa.]
L. rolandi Castex, 1930:46–48, pl. 4: figs. 3–5. [France.] (Lutetian.)
L. trechmanni Hawkins, 1924:319–321, pl. 18: figs. 6–7. [Jamaica, West Indies.]

Lower Eocene

L. arabica Clegg, 1933:16–17, pl. 2: figs. 1a–c, 2a–c. [Arabia.]
L. gibba Lambert, 1933a:41, fig. 7. [Madagascar, off East Africa.]
L. hargeisensis Currie, 1943:27. [Somaliland, East Africa.] (Auradu Ls.)
L. hollandi Barry in Barry and Le Blanc, 1942: 43–44, pl. 2: figs. 3–4. [Texas, U.S.A.]
L. somaliensis Currie, 1927:432–435. [Somaliland, East Africa.]
L. sudanensis Bather var. *brevipetala* Lambert and Pérébaskine, 1929:476–477, pl. 38: fig. 12. [North Africa.]

Paleocene

L. maverickensis Gardner, 1933:110–111, pl. 4: figs. 13–14. [Texas, U.S.A.] (Midway Gp.)

Cretaceous

L. aguayoi Sánchez Roig, 1949:265–266, pl. 48: figs. 1–2, pl. 49: fig. 1. [Cuba. Although Sánchez Roig cites it as Upper Oligocene, Brodermann (1949: 324) says it is Cretaceous.]

Upper Cretaceous

L. alta Sánchez Roig, 1949:266–267, pl. 49: figs. 3–5. [Cuba.]
L. avilensis Sánchez Roig, 1949:264, pl. 32: figs. 2–3. [Cuba.]
L. brodermanni Sánchez Roig, 1949:263–264, pl. 49: figs. 2–4. [Cuba.]
L. cretacica Sánchez Roig, 1949:264–265, pl. 47: figs. 1–3. [Cuba.]
L. dainellii Stefanini, 1928:182–184, pl. 21: figs. 6a–e, 7. [Karakorum, Mongolia.] (Cenomanian.)

L. gonzalezmunozi Sánchez Roig, 1952c:23–24, pl. 9: fig. 1. [Cuba.] (Senonian.)
L. mullerriedi Lambert, 1935d:373, pl. 16: figs. 20–21. [Mexico.] (Lower Senonian.)

Subgenus *Linthia* (*Lutetiaster*) Lambert

Middle Eocene

L. lamberti Castex, 1930:48, pl. 4: figs. 6–8. [France.] (Upper Lutetian.)
L. maccagnoi Checchia-Rispoli, 1950a[1945–1946]: 38–39, pl. 1: figs. 3–3a. [Somaliland, East Africa.]

Genus *Moira* A. Agassiz

Recent

M. lachesis Mortensen, 1930:389–393, fig. 1, pl. 2: figs. 1–7, pl. 3: figs. 5–8, pl. 4: figs. 1–14. [Japan.]
M. lethe Mortensen, 1930:392, fig. 2, pl. 3: figs. 1–4. [Queensland, Australia.]

Miocene

M. adamthi Clegg, 1933:27–29, pl. 3: figs. 4a–c, 5a–c. [Persian Gulf.]

Lower Miocene

M. obesa Nisiyama, 1935:164–167, figs. 9a–c, pl. 8: figs. 6–16. [Japan.]

Subgenus *Moira* (*Moiropsis*) A. Agassiz

Upper Miocene

M. depressa Hayasaka, 1948:106–109, pl. 1: figs. 4a–c. [China.]

Genus *Periaster* d'Orbigny

Paleocene/Cretaceous

P. inconstans Lambert, 1933a:25–26, pl. 4: fig. 15. [Madagascar, off East Africa.] (Danian/Upper Maestrichtian.)

Cretaceous

P. kuhni Mitzopoulos, 1960:285, pl. 3: figs. 4–6. [Greece.]

Upper Cretaceous

P. ciryi Lambert, 1935f:520, pl. 57: figs. 13–15. [Spain.] (Coniacian.)
P. maugerii Checchia-Rispoli, 1936:304–305, pl. 16: figs. 4–4a, pl. 17: fig. 5. [Sicily, southwest of Italy.] (Cenomanian.)
P. subsexangulatus Airaghi, 1939:264, pl. 10: figs. 2–3. [North Africa.] (Maestrichtian.)
P. zinai Airaghi, 1939:265, pl. 10: fig. 6. [North Africa.] (Maestrichtian.)

Genus *Prenaster* Desor

Eocene

P. skorpili Gočev, 1933:58–59, pl. 2: figs. 1a–b, pl. 4: fig. 6, pl. 7: fig. 19a–d. [Bulgaria.]

Upper Eocene

P. jeanneti Pijpers, 1933:93–94, fig. 156, pl. 1: figs. 9–12. [Netherland Antilles, Dutch West Indies.]
P. nuevitasensis Sánchez Roig, 1949:252, pl. 42: figs. 1–2. [Cuba. Although Sánchez Roig says it is Eocene, Brodermann (1949:326) says it is Middle to Upper Eocene.]
P. parvus Palmer in Sánchez Roig, 1949:251–252, pl. 42: fig. 12. [Cuba.]
P. sanchezi Lambert in Sánchez Roig, 1949:251, pl. 46: figs. 4–6. [Cuba. Although Sánchez Roig says it is Eocene, Brodermann (1949:326) says it is Middle to Upper Eocene.]

Middle Eocene

P. clarcki Sánchez Roig, 1949:252–253, pl. 46: figs. 7–8. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:326) says it is Middle Eocene.]

CRETACEOUS

P. elongatus Sánchez Roig, 1949:250, pl. 50: figs. 3–4. [Cuba. Although Sánchez Roig says it is Lower Eocene, Brodermann (1949:326) says it is Cretaceous.]

Subgenus *Prenaster* (*Saviniaster*) Lambert

RECENT

S. enodatus Chesher, 1968a:143–149, pls. 33–35. [Bahama Island, southeast of Florida, U.S.A.]

Genus *Proraster* Lambert

UPPER CRETACEOUS

P. atavus (Arnaud) Lambert var. *mediterraneus* Kühn, 1925:185–187. [France.] (Lower Campanian.)

Genus *Sanfilippaster* Checchia-Rispoli

In the *Treatise,* Fischer (Durham et al., 1966:U578) considers *Sanfilippaster* a subjective synonym of *Proraster* Lambert.

UPPER CRETACEOUS

Sanfilippaster Checchia-Rispoli, 1932b:313–316. Type-species: *Proraster geayi* Cotteau. [Madagascar, off East Africa, and Tripoli, Libya.] (Upper Senonian.)

Genus *Tripylus* Philippi

PALEOCENE

T. pseudoviviparus Lambert, 1933a:27–28, pl. 4: figs. 1–7. [Madagascar, off East Africa.] (Danian.)

UPPER CRETACEOUS

T. antonibensis Lambert, 1933a:28, pl. 4: figs. 12–14. [Madagascar, off East Africa.] (Upper Maestrichtian.)

Suborder MICRASTERINA A. G. Fischer

Family MICRASTERIDAE Lambert

Genus *Micraster* L. Agassiz

PALEOCENE

M. desori Ødum, 1926:162–163, pl. 2: fig. 1. [Denmark.] (Danian.)

CRETACEOUS

M. depressus Kongiel in Kongiel and Matweijewówna, 1937:116–117, 139–140, pl. 5: figs. 6–9. [Poland.]

M. elevatus Sánchez Roig, 1949:218, pl. 47: figs. 4–5. [Cuba.]

UPPER CRETACEOUS

M. burgiensis Lambert, 1935f:518, pl. 57: figs. 5–8. [Spain.] (Coniacian.)

M. coravium Moskvin, 1959:283, fig. 97, pl. 22: figs. 1a–e, 2a–b. [Caucasus, U.S.S.R.]

M. gappi Kühn, 1925:184–187, figs. 2a–c. [Austria.] (Coniacian.)

M. piriformis Böhm, 1927:197–198, pl. 12: figs. 7a–c. [Bithynia, Asia Minor.] (Senonian.)

M. subglobosus Moskvin, 1959:280, fig. 92, pl. 19: figs. 1a–e. [Caucasus, U.S.S.R.]

M. trangahyensis Lambert, 1936c:27, pl. 2: figs. 9–10. [Madagascar, off East Africa.] (Upper Senonian.)

M. uddeni Cooke, 1953:37–38, pl. 15: figs. 6–9. [Texas, U.S.A.] (Santonian.)

M. vistulensis Kongiel, 1950:318–320, 325–326, pl. 2: figs. 5–8. [Poland.] (Upper Maestrichtian.)

Subgenus *Micraster* (*Micraster*) L. Agassiz

UPPER CRETACEOUS

M. (*M.*) *schroederi* Stalley *planus* Maczyńska. 1968: 116–118, 168, pl. 5: figs. 2a–c, pl. 6: figs. 1a–2d, pl. 7: figs. 1a–e, text-pl. 5: figs. 1–3, text-pl. 6: figs. 1–3. [Poland.] (Campanian.)

M. (*M.*) *bibicensis* Maczyńska, 1968:129–130, 168, pl. 13: figs. 1a–4, text-pl. 10: figs. 1–4. [Poland.] (Upper Campanian.)

Subgenus *Micraster* (*Paramicraster*) Maczyńska

Upper Cretaceous

Micraster (*Paramicraster*) Maczyńska, 1968:154–155. Type-species: *M.* (*P.*) *latior* (Rowe). [Poland.] (Santonian.)

M. (*P.*) *cracoviensis* Maczyńska, 1968:155–157, 168, pl. 24: figs. 1a–e, pl. 25: figs. 1a–d, text-pl. 21: figs. 1–4. [Poland.] (Lower Campanian.)

Genus *Brissopneustes* Cotteau

Lower Eocene

B. desioi Lambert, 1933a:36, pl. 3: fig. 13. [Madagascar, off East Africa.]

Paleocene

B. decaryi Lambert, 1933a:19, pl. 3: figs. 9–10. [Madagascar, off East Africa.] (Danian.)

B. schwetzovi Poslavskaia and Moskvin, 1960:73–74, 81, fig. 24, pl. 6: figs. 2a–d, 3. [U.S.S.R.] (Danian.)

Genus *Isopneustes* Pomel

Paleocene

Micraster (Isopneustes) eysdenensis Smiser, 1935b: 84, pl. 7: figs. 7a–g. [Belgium.] (Montian.)

M. (I.) montensis Smiser, 1935b:84, pl. 7: figs. 8a–d. [Belgium.] (Montian.)

Family BRISSIDAE Gray

Genus *Brissus* Gray

Recent

B. gigas Fell, 1947:145–150, figs. 1–2, pls. 13–14. [New Zealand.]

Pliocene

B. lasti Stockley, 1927:116–117, pl. 21: fig. 6. [Zanzibar Protectorate, East Africa.]

Miocene

B. latidunensis Clegg, 1933:30–33, pl. 3: figs. 7a–c. [Persian Gulf.]

Upper Miocene

B. glenni Cooke, 1959:82, pl. 36: figs. 5–6. [South Carolina, U.S.A.]

Lower Miocene

B. kewi Grant and Hertlein, 1938b:128–129, pl. 12: figs. 1–2. [California, U.S.A.] (Vaqueros Fm.)

Oligocene

B. duperieri Castex, 1947:33–34, pl. 2: figs. 21–22. [France.] (Lattorfian = Sannoisian.)

Upper Eocene

B. camagueyensis Weisbord, 1934:76–78, pl. 9: figs. 1–2. [Cuba.]

Middle Eocene

B. caobaense Sánchez Roig, 1953c:163, pl. 7: fig. 5, pl. 8: figs. 1–2. [Cuba.]

Subgenus *Brissus* (*Allobrissus*) Mortensen

Fischer (Durham et al., 1966:U582), in the *Treatise,* considers *Brissus (Allobrissus)* Mortensen a subjective synonym of *Brissus* Gray.

Recent

Brissus (Allobrissus) Mortensen, 1950b:162. Type-species: *Brissus agassizii* Döderlein. [Northern Pacific Ocean.]

B. (A.) meridionalis Mortensen, 1950b:162. [Australian region.]

Middle Miocene

B. (A.) miocaenicus Schaffer, 1961:149–156, fig. 1, pl. 1: figs. 1–6, pl. 2: figs. 1–9. [Austria.] (Tortonian.)

Genus *Sandiegoaster* Sánchez Roig

In the *Treatise,* Fischer (Durham et al., 1966:U582) considers *Sandiegoaster* a subjective synonym of *Brissus* Gray.

Middle Eocene

Sandiegoaster Sánchez Roig, 1952b:12. Type-species: *S. durhami* Sánchez Roig, 1952b:12–13, pl. 5: fig. 2, pl. 6: fig. 2, pl. 7: fig. 2. [Cuba.]

Genus *Aguayoaster* Sánchez Roig

Middle Eocene

Aguayoaster Sánchez Roig, 1952b:10–11. Type-species: *A. aguayoi* Sánchez Roig, 1952b: 11–12, pl. 8: figs. 3, 5–7. [Cuba.]

Genus *Anabrissus* Mortensen

Recent

Anabrissus Mortensen, 1950b:161. Type-species: *Brissus damesi* A. Agassiz. [Tropical Atlantic.]

Genus *Anametalia* Mortensen

Recent

Anametalia Mortensen, 1950b:161. Type-species: *Brissus sternaloides* Bolau. [Indonesia.]

A. grandis Mortensen, 1950b:161. [Coast of Indo-China.]

Genus *Arcaechinus* Kier

Lower Eocene

Arcaechinus Kier, 1957b:891. Type-species: *A. auraduensis* Kier, 1957b:891–893, fig. 18, pl. 107: figs. 6–8. [British Somaliland, East Africa.] (Upper Auradu Series.)

Genus *Brissopatagus* Cotteau

Lower Miocene/Upper Oligocene

B. venzoi Checchia-Rispoli, 1947b:518–520, pl. 1: figs. 1–13. [North Africa.] (Aquitanian/Chattian.)

Oligocene

Eupatagus (Brissopatagus) avilensis Sánchez Roig, 1951:45–46, pl. 33: figs. 2–3. [Cuba.]

Upper Eocene

E. (B.) alabamensis Cooke, 1942:58–59, pl. 4: figs. 7–8. [U.S.A.]

E. (B.) georgianus Cooke, 1942:58, pl. 7: figs. 8–11. [U.S.A.]

B. rojasi Sánchez Roig, 1953c:164, pl. 9: figs. 5–6. [Cuba.]

Middle Eocene

B. collignoni Lambert, 1933a:37–38, pl. 4: fig. 21. [Madagascar, off East Africa.] (Lutetian.)

B. lummaui Castex, 1930:41–42, pl. 4: figs. 1–2. [France.] (Lutetian.)

Paleocene

E.? (B.?) primus Cooke, 1942:59, pl. 4: figs. 1–4. [U.S.A.] (Clayton Fm.)

Genus *Brissopsis* L. Agassiz in Agassiz and Desor

Recent

B. micropetala Mortensen, 1948a:124–125. [Philippine Islands.]

B. obliqua Mortensen, 1948a:125–126. [Philippine Islands.]

B. persica Mortensen, 1940c:107–110, fig. 23, pl. 2: figs. 5–11. [Iranian Gulf.]

B. persica Mortensen var. *elevata* Mortensen, 1940c: 110, pl. 2: fig. 12. [Iranian Gulf.]

B. caparti Cherbonnier, 1959a:51–54, pl. 9: figs. A–O. [Gulf of Guinea, west central coast of Africa, Atlantic Ocean.]

B. evanescens Mortensen, 1950b:162. [Off Walfish Bay, South Africa.]

B. jarlii Mortensen, 1951:302–303, fig. 1, pl. 1: figs. 1–3. [Tropical West Africa.]

B. similis Mortensen, 1948a:123–124. [Philippine Islands.]

Pliocene

B. japonica Nisiyama, 1968:281–283, pl. 25: fig. 7, pl. 26: figs. 8–9. [Japan.] (Kokumoto Fm.)
B. luzonica (Gray) *cosibensis* Nisiyama, 1968:280–281, pl. 25: figs. 5–6. [Japan.] (Koshiba Fm.)

Upper Miocene

B. makiyamai Morishita, 1957:161–163, pl. 1: figs. 1–5. [Japan.]

Medial Tertiary

B. blanpiedi Grant and Hertlein, 1938a:484–486, figs. 5–6, 8–10. [Mississippi, U.S.A. According to Cooke (1959:86) it is Middle Oligocene.]

Oligocene

B. fermori Vredenburg, 1922:413, pl. 30: fig. 2. [Burma.]

Upper Oligocene

B. aguayoi Sánchez Roig, 1952c:15–16, pl. 6: figs. 1–2. [Cuba.]

Upper Eocene

B. steinhatchee Cooke, 1942:49, pl. 5: figs. 29–32. [U.S.A.]

Genus *Brissoma* Pomel

In the *Treatise,* Fischer (Durham et al., 1966:U584) considers *Brissoma* a subjective synonym of *Brissopsis.*

Lower Miocene

B. vonderschmitti Jeannet, 1928a:37–38, pl. 4: figs. 16–19, pl. 6: figs. 9–11; 1928b:220. [Venezuela.] (Serie superieure d'Agua Salada.)

Upper Oligocene

B. habanensis Sánchez Roig, 1949: 224–225, pl. 35: figs. 3–4. [Cuba.]

Genus *Kleinia* Gray

In the *Treatise,* Fischer (Durham et al., 1966:U584) considers *Kleinia* a synonym of *Brissopsis.*

Lower Miocene

Brissopsis (Kleinia) crescenticus Wright var. *syriaca* Vautrin, 1933:104–106, pl. 12: figs. 2–3. [Asia Minor.] (Burdigalian.)

Middle Eocene

K. pulcra Checchia-Rispoli, 1950a[1945–1946]:31–32, pl. 2: figs. 4–4a. [Somaliland, East Africa.]

Genus *Cionobrissus* A. Agassiz

Recent

C. regularis H. L. Clark, 1925a:221–222, pl. 10: figs. 6–7. [*Challenger* Sta. 188, west end of Torres Straits (Arafura Sea) between northern Australia and Indonesia.]

Genus *Cyclaster* Cotteau

Recent

C. recens Mortensen, 1950b:161–162. [Coast of Indo-China.]
C. regalis Baker, 1969:266–270, figs. 1–18, pl. 1: figs. 1–4. [North of East Cape, Northern New Zealand.]

Tertiary

C. sterea Arnold and Clark, 1934:149–150, pl. 3: figs. 4–5. [Jamaica.]

Upper Oligocene

C. brodermanni Sánchez Roig, 1949:221, pl. 35: figs. 1–2. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:319) says it is Upper Oligocene.]

Lower Oligocene

C. drewryensis Cooke, 1942:50, pl. 3: figs. 9–11. [U.S.A.]

Eocene

C. sanchezi Lambert in Sánchez Roig, 1926:113–114, pl. 38: figs. 1–2. [Cuba. Although Lambert considered this species Late Cretaceous, according to Sánchez Roig (1949:219) it is Eocene.]

Middle Eocene

C. jeanneti Lambert, 1933a:36–37, pl. 3: figs. 11–12. [Madagascar, off East Africa.] (Lower Lutetian.)

Paleocene

C. brunnichi Ravn, 1927:345–347, pl. 5: figs. 5a–e. [Denmark.] (Danian.)

Upper Cretaceous

C. pfenderae Basse and Lambert in Lambert, 1936c: 27–28, pl. 4: figs. 17–19. [Madagascar, off East Africa.] (Upper Campanian.)

C. pygmeus Rouchadzé, 1940:129–130, 155, 174–176, fig. 20, pl. 3: fig. 7. [Georgia, U.S.S.R.] (Maestrichtian.)

Subgenus *Diplodetus (Protobrissus)* Lambert

Paleocene

P. indolensis Poslavskaia and Moskvin, 1960:78, 81–82, fig. 29, pl. 8: figs. 2a–e. [Crimea, U.S.S.R.] (Danian.)

Upper Cretaceous

P. akkajensis (Weber) in Moskvin, 1959:290, pl. 26: figs. 1a–e. [Crimea and Caucasus, U.S.S.R.]

Genus *Eupatagus* L. Agassiz

Lambert and Thiéry (1924:450) referred species previously considered to belong to *Eupatagus* to a pre-Linneaus genus *Brissoides* Klein, 1734. Many subsequent authors have done this also. Probably all the species listed below that were referred to *Brissoides* should be referred to *Eupatagus.*

Recent

E. dyscritus H. L. Clark, 1938:436–437, pl. 28: figs. 10–11. [Australia.]

E. rubellus Mortensen, 1948a:129–130. [Philippine Islands.]

Miocene

E. cordis Desio, 1929:345–347, pl. 33: figs. 3a–b. [Oasis of Giarabùb, Libya.] (Porto Bardia.)

E. marianensis Nisiyama, 1968:291–293, pl. 27: figs. 7–8, 10–11. [Mariana Islands (Saipan), western Pacific Ocean.] (Nephrolepidina horizon.)

Middle Miocene

E. nipponicus Morishita, 1957:163–164, pl. 1: figs. 7–8. [Japan.]

Lower Miocene

E. hollisi Stockley, 1927:111–113, pl. 20: fig. 5. [Zanzibar Protectorate, East Africa.]

Oligocene

E. mexicanus Jackson, 1937:234–235, pl. 14, pl. 15: fig. 1. [Mexico.]

Upper Oligocene

B. camagueyanus Sánchez Roig, 1949:206–207, pl. 25: fig. 1. [Cuba.]

B. habanensis Sánchez Roig, 1949:204–205, pl. 23: fig. 4. [Cuba.]

B. lajasensis Sánchez Roig, 1949:203–204, pl. 24: fig. 1. [Cuba.]

B. minutus Sánchez Roig, 1949:205. [Cuba.]

B. palmeri Sánchez Roig, 1949:205–206, pl. 25: figs. 4–5. [Cuba.]

B. sanchezi Lambert in Sánchez Roig, 1949:211, pl. 24: figs. 2–3. [Cuba.]

B. santanae Sánchez Roig, 1949:210–211, pl. 25: figs. 2–3. [Cuba.]

B. zanolettii Sánchez Roig, 1952c:12–13, pl. 7: figs. 1–2. [Cuba.]

Eocene

E. alatus Arnold and H. L. Clark, 1927:63–64, pl. 13: figs. 4–7. [Jamaica, West Indies.]
E. attenuatus Arnold and H. L. Clark, 1927:65, pl. 13: figs. 8–9. [Jamaica, West Indies.]
B. cranium Leske var. *somaliensis* Checchia-Rispoli, 1943a:100–103, pl. 2: figs. 1–2, pl. 3: fig. 5. [Somaliland, East Africa.]
B. dainellii Checchia-Rispoli, 1943a:105–107, pl. 1: figs. 3–6. [Somaliland, East Africa.]
B. daradensis Lambert in Lambert and Jacquet, 1936:357, pl. 23: figs. 4–5. [Senegal, West Africa.]
E. defectus Arnold and H. L. Clark, 1927:65–66, pl. 14: figs. 1–3. [Jamaica, West Indies.]
B. fecundus Checchia-Rispoli, 1943a:109–111, pl. 3: figs. 1–4. [Somaliland, East Africa.]
E. hildae Hawkins in Arnold and H. L. Clark, 1927:66–67, 81, pl. 22: figs. 9–10. [Jamaica, West Indies.]
Brissoides (Eupatagus) lamberti Collignon, 1930: 559–561, pl. 32: figs. 1, 1a–b. [Austria.]
E. longipetalus Arnold and H. L. Clark, 1927:67, pl. 14: figs. 4–6. [Jamaica, West Indies.]
B. migiurtinus Checchia-Rispoli, 1943a:108–109, pl. 2: figs. 3–8. [Somaliland, East Africa.]
B. migliorinii Checchia-Rispoli, 1943a:103–105, pl. 1: figs. 1–2. [Somaliland, East Africa.]
B. skourensis Lambert, 1937:87–88, pl. 3: figs. 12–14. [Morocco.]

Upper Eocene

E. calistoides Sánchez Roig, 1953c:160–161, pl. 6: fig. 8. [Cuba.]
B. cuvillieri Lambert, 1935e:42–43, pl. 1: figs. 7–8. [Egypt.] (Bartonian.)
E. ingens Zachos, 1968:161–163, fig. 1. [Florida, U.S.A.] (Jackson Stage, Ocala Ls.)
E. siboneyensis Weisbord, 1934:78–80, pl. 8: figs. 7–8. [Cuba.]
B. stefaninii Lambert and Roig in Sánchez Roig, 1949:207–208, pl. 23: fig. 1. [Cuba.]
E. stevensi Grant and Hertlein, 1938b:134–135, fig. 12. [California, U.S.A.] (Approximately Domengine.)
E. turibacoensis Sánchez Roig, 1953c:157–158, pl. 8: figs. 3–4. [Cuba.]

Middle Eocene

E. brodermanni Sánchez Roig, 1953c:159–160, pl. 9: figs. 1, 4. [Cuba.]
E. caobaense Sánchez Roig, 1952c:13–14, pl. 6: fig. 10. [Cuba.]
E. casanovai Sánchez Roig, 1953c: 159, pl. 9: figs. 2–3. [Cuba.]
E. gadilhei Roman and Gorodiski, 1959:60–61, pl. 3: figs. 39–41. [Senegal.] (Upper Lutetian.)

Lower Eocene

E. haburiensis Khanna, 1967:214–220, fig. 1, pl. 1: figs. 1–8. [Rajastan, India.] (Ypresian.)

Genus *Euspatangus* Cotteau

In the *Treatise,* Fischer (Durham et al., 1966:U586) considers *Euspatangus* a subjective synonym of *Eupatagus.*

Middle Eocene

E. rogeri Pinar, 1951:47–49, fig. 8, pl. 1b: figs. 4–5. [Turkey.]

Genus *Megapatagus* Sánchez Roig

In the *Treatise,* Fischer (Durham et al., 1966:U586) considers *Megapatagus* a subjective synonym of *Eupatagus* L. Agassiz.

Upper Oligocene

Megapatagus Sánchez Roig, 1953a:58–59. Type-species: *M. franciscanus* Sánchez Roig, 1953a:59–60, pls. 6(pars), 11. [Cuba.]

Oligocene

M. depressus Sánchez Roig, 1953a:60, pl. 12. [Cuba.]

Upper Eocene

M. turibacoensis Sánchez Roig, 1953a:61, pl. 13. [Cuba.]

Genus *Zanolettiaster* Sánchez Roig

In the *Treatise,* Fischer (Durham et al., 1966:U586) considers *Zanolettiaster* a subjective synonym of *Eupatagus* L. Agassiz.

Upper Oligocene

Zanolettiaster Sánchez Roig, 1952c:14. Type-species: *Z. herrerae* Sánchez Roig, 1952c:15, pl. 8: figs. 1–2, pl. 9: fig. 4. [Cuba.]

Subgenus *Eupatagus (Gymnopatagus)* Döderlein

Oligocene

E. (G.) brevipetalum Sánchez Roig, 1951:44–45, pl. 33: fig. 1, pl. 38: fig. 1. [Cuba.]
E. (G.) rogasi Sánchez Roig, 1951:42, pl. 34: fig. 3. [Cuba.]
E. (G.) venturillae Sánchez Roig, 1951:43, pl. 26: figs. 1–2. [Cuba.]
E. (G.) zanoletti Sánchez Roig, 1951:43–44, pl. 32: fig. 3. [Cuba.]

Genus *Fernandezaster* Sánchez Roig

Eocene

Fernandezaster Sánchez Roig, 1952c:17. Type-species: *F. mortenseni* Sánchez Roig, 1952c:18, pl. 10: figs. 1–2. [Cuba, Although Sánchez Roig says it is Upper Oligocene, Fischer (Durham et al., 1966:U588) says it is Eocene.]

Genus *Gillechinus* Fell

Upper Eocene

Gillechinus Fell, 1963a:213. Type-species: *G. cudmorei* Fell, 1963a:213–215, pls. 1(pt.), 2. [Victoria, Australia.]

Genus *Gaultieria* Agassiz

Paleogene

G. desioi Airaghi, 1934:78–79, pl. 5: figs. 9–10. [Libya, North Africa.]

Genus *Herreraster* Sánchez Roig

Oligocene

Herreraster Sánchez Roig, 1951:52. Type-species: *H. herrerae* Sánchez Roig, 1951:53, pls. 30, 31. [Cuba.]

Genus *Idiobryssus* Clark

Recent

Idiobryssus H. L. Clark, 1939:173. Type-species: *I. coelus* H. L. Clark, 1939:173–175, pl. 17: figs. 1–2. [Galápagos Islands, Eastern Pacific Ocean.]

Genus *Lajanaster* Sánchez Roig

Miocene

L. jacksoni Lambert and Roig var. *minor* Sánchez Roig, 1926: pls. 26, 27. [Cuba.]

Oligocene

L. guevarai Sánchez Roig, 1951:53–54, pl. 24: figs. 2–4. [Cuba.]
L. venturillae Sánchez Roig, 1951:54–55, pl. 25: figs. 3–4. [Cuba.]

Upper Oligocene

L. hernandezi Sánchez Roig, 1949:195, pl. 23: figs. 2–3. [Cuba.]
L. rojasi Sánchez Roig, 1953a:58, pl. 10(pars). [Cuba.]

Genus *Lissospatangus* Mortensen

Recent

Lissospatangus Mortensen, 1950b:162. Type-species: *L. hirsutus* Mortensen, 1950b:162. [South of Australia.]

Genus *Macropneustes* L. Agassiz

Tertiary

M. dyscritus Arnold and H. L. Clark, 1934:151, pl. 4: figs. 1–2. [Jamaica, West Indies.]

M. sinuosus Arnold and H. L. Clark, 1934:152, pl. 4: fig. 3. [Jamaica, West Indies.]
M. stenopetalus Arnold and H. L. Clark, 1934:152–153, pl. 4: figs. 4–5. [Jamaica, West Indies.]

Lower Miocene

M. dubius Israelsky, 1924:143, pl. 3: fig. 1. [Mexico. Although Israelsky considered the Tuxpam Beds, from where this species was collected, to be Oligocene, these beds are now considered (Masuda, 1971:215–216) to be Lower Miocene.]

Oligocene

M. brodermanni Sánchez Roig, 1953a:62–63, pl. 15 (part), pl. 16 (part). [Cuba.]
M. trevisani Socin, 1942:51–52. [Somaliland.]

Upper Oligocene

M. gomezmazae Sánchez Roig, 1953a:63, pl. 17. [Cuba.]

Eocene

M. altus Arnold and H. L. Clark, 1927:68, pl. 14: figs. 7–9. [Jamaica, West Indies.]
M. angustus Arnold and H. L. Clark, 1927:68–69, pl. 14: figs. 10–11, pl. 15: fig. 1. [Jamaica, West Indies.]
M. parvus Arnold and H. L. Clark, 1927:69–70, pl. 18: figs. 1–3. [Jamaica, West Indies.]
M. rochi Lambert, 1933b:77–78, pl. 3: fig. 13. [North Africa.]

Subgenus *Macropneustes (Deakia)* Pavay

Upper Eocene

D. armadilloensis Sánchez Roig, 1953c:165–166, pl. 10: figs. 1–2. [Cuba.]

Genus *Mariania* Airaghi

Middle/Lower Miocene

M. euglypha (Laube) var. *brevistella* Venzo, 1935: 233, pl. 17: figs. 29a–b. [Italy.] (Langhian.)

Genus *Mauritanaster* Lambert

Upper Oligocene

M. depressus Sánchez Roig, 1949:228–229, pl. 33: fig. 1. [Cuba.]
M. marroquinensis Sánchez Roig, 1953a:61–62, pl. 14. [Cuba.]

Genus *Meoma* Gray

Recent

M. cadenati Madsen, 1957:474–479, figs. 1–3. [Senegal, West Africa.]
M. frangibilis Chesher, 1970:750–753, figs. 7a–c, 8. [Panama, Bay of Panama (Pacific side).]

Eocene

M. antiqua Arnold and H. L. Clark, 1927:70, pl. 15: fig. 2. [Jamaica, West Indies.]

Middle Eocene

M. caobaensis Sánchez Roig, 1952c:16–17, pl. 11: figs. 2–3. [Cuba.]

Subgenus *Meoma (Plethotaenia)* H. L. Clark

Recent

P. angularis Chesher, 1968a:111–121, figs. 20(pt.), 22(pt.), 23(pt.), 24, pls. 24–26. [Bahama Island to Barbados, Caribbean Sea.]

Subgenus *Meoma (Schizobrissus)* Pomel

Pleistocene

S. jacksoni Lambert and Roig in Sánchez Roig, 1949:230–231, pl. 37: figs. 1–2. [Cuba.]

Miocene

S.? siliceus Desio, 1929:337–340, pl. 32: fig. 4. [Oasis of Giarabùb, Libya.] (Scegga-Altipiano Marm.)

LOWER MIOCENE

S. kewi Durham, 1961a:484–485, figs. 1B, 1E, 2C, pl. 67: figs. 2, 6, 9. [Costa Rica.]

EOCENE

S. damiani Jeannet, 1934a:388–389; 1934b:334–335. [Switzerland.]

Genus *Metalia* Gray

RECENT

M. latissima H. L. Clark, 1925a:215–216, pl. 11: fig. 7, pl. 12: figs. 1–2. [Tuticorin in south Madras, India.]

TERTIARY

M. dubia Arnold and H. L. Clark, 1934:153–154, pl. 5: figs. 4–6. [Jamaica, West Indies.]
M. jamaicensis Arnold and H. L. Clark, 1934:154–155, pl. 5: figs. 1–3. [Jamaica, West Indies.]

PLIOCENE

M. waylandi Stockley, 1927:116, pl. 21: figs. 4a–b. [Zanzibar Protectorate, East Africa.]

LOWER MIOCENE/OLIGOCENE

M. pelagica Nisiyama, 1968:299–300, pl. 27: figs. 1–5, pl. 29: fig. 4. [Saipan, Mariana Islands, western Pacific Ocean.] (Donny Fm. Aquitanian.)

OLIGOCENE

M. cartagensis Sánchez Roig, 1949:232–233. [Cuba.]

UPPER OLIGOCENE

M. palmeri Sánchez Roig, 1953c:166–167, pl. 10: fig. 3. [Cuba.]

Genus *Prometalia* Pomel

In the *Treatise,* Fischer (Durham et al., 1966:U597) considers *Prometalia* a subjective synonym of *Metalia.*

MIDDLE EOCENE

P. besairiei Lambert, 1933a:39–40, fig. 6. [Madagascar, off East Africa.] (Lutetian.)

Genus *Migliorinia* Checchia-Rispoli

EOCENE

Migliorinia Checchia-Rispoli, 1942:305–309. Type-species: *M. migiurtina* Checchia-Rispoli, 1942: 305–309, figs. 1–3, pl. 1: figs. 1–10. [Somaliland, East Africa.]

Genus *Pharaonaster* Lambert

EOCENE

P migliorinii Checchia-Rispoli, 1941:388–391, figs. 1–2. [North Africa.]

Genus *Thebaster* Checchia-Rispoli

In the *Treatise,* Fischer (Durham et al., 1966:U601) considers this genus a subgenus of *Pharaonaster.*

EOCENE

Thebaster Checchia-Rispoli, 1941:393. Type-species: *Macropneustes fischeri* de Loriol. [Egypt.]

Genus *Plagiobrissus* Pomel

RECENT

P. pacificus H. L. Clark, 1940b:351, pl. 2: figs. 3–4. [Panama, Pacific Ocean side.]

MIOCENE

P. abeli Reidl, 1941:24–29, figs. 1–2. [Austria.]
P. costaricensis Durham, 1961a:485–487, figs. 1G, 1J, 2F, pl. 68: figs. 6, 9, 12. [Costa Rica.]
P. malavassii Durham, 1961a:487, figs. 1H, 1K, 2D, pl. 67: figs. 1, 3, 10, pl. 68: fig. 1. [Costa Rica.]

MIDDLE MIOCENE

P. lamberti Jeannet, 1928a:38–41, fig. 12, pl. 5: figs. 1–2, pl. 6: figs. 13–14; 1928b:220. [Venezuela.] (Serie de Capadare, couches d'Ojo de Agua.)

OLIGOCENE

Eupatagus (Plagiobrissus) herrerae Sánchez Roig, 1951:46–47, pl. 25: figs. 1–2. [Cuba.]
E. (P.) santanae Sánchez Roig, 1951:47–48, pl. 37: fig. 2. [Cuba.]

EOCENE

P. abruptus Arnold and H. L. Clark, 1927:71, pl. 18: figs. 4–5. [Jamaica, West Indies.]
P. elevatus Arnold and H. L. Clark, 1927:71–72, pl. 19: figs. 2–4. [Jamaica, West Indies.]
P. latus Arnold and H. L. Clark, 1927:72–73, pl. 18: figs. 6–7, pl. 19: fig. 1. [Jamaica, West Indies.]
P. perplexus Arnold and H. L. Clark, 1927:74–75, pl. 20: fig. 6, pl. 21: figs. 1–2. [Jamaica, West Indies.]
P. robustus Arnold and H. L. Clark, 1927:75, pl. 20: fig. 7, pl. 21: figs. 3–4. [Jamaica, West Indies.]

UPPER EOCENE

Eupatagus (Plagiobrissus) curvus Cooke, 1942:56–57, pl. 7: figs. 5–7. [U.S.A.]
E. (P.) dixie Cooke, 1942:55–56, pl. 6: figs. 1–3. [U.S.A.]
E. (P.) gardnerae Cooke, 1942:56, pl. 7: figs. 1–4. [U.S.A.]
E. (P.) ocalanus Cooke, 1942:57, pl. 6: figs. 4–8. [U.S.A.]

Subgenus *Plagiobrissus (Rhabdobrissus)* Cotteau

UPPER EOCENE

Brissoides (Rhabdobrissus) aloysii Pijpers, 1933:89–91, figs. 154–155, pl. 1: fig. 18, pl. 2: figs. 7–9. [Netherland Antilles, Dutch West Indies.]

Genus *Mortensenaster* Lambert

EOCENE

M. barthouxi Lambert, 1931d:203, pl. 8: fig. 4. [Isthmus of Suez, Red Sea area.]

Genus *Plesiaster* Pomel

UPPER CRETACEOUS

Micraster (Plesiaster) americanus Stephenson, 1941: 69–70, pl. 7: figs. 1–4. [U.S.A.] (Navarro Group. Maestrichtian.)

Genus *Plesiopatagus* Pomel

MIDDLE EOCENE

P. hourcqi Lambert, 1933a:38, pl. 4: fig. 22. [Madagascar, off East Africa.] (Lower Lutetian.)

Genus *Rhynobrissus* A. Agassiz

RECENT

R. macropetalus H. L. Clark, 1938:434–435, pl. 28: figs. 8–9. [Western Australia.]

UPPER MIOCENE

R. rostratus Cooke, 1961:29, pl. 14: figs. 1–4. [Venezuela.]

Genus *Rojasia* Sánchez Roig

EOCENE

Rojasia Sánchez Roig, 1951:57. Type-species: *R. rojasi* Sánchez Roig, 1951:58, pl. 35, pl. 36: fig. 1. [Cuba.]

Genus *Spatagobrissus* H. L. Clark

RECENT

Spatagobrissus H. L. Clark, 1923:402–404. Type-species: *S. mirabilis* H. L. Clark, 1923:402, pl. 23: figs. 1–2. [South Africa.]

Genus *Spatangomorpha* Böhm

MIDDLE EOCENE

Eupatagus (Spatangomorpha) pinarensis Sánchez Roig, 1953c:157, pl. 7: figs. 3–4. [Cuba.]

Genus *Taimanawa* Henderson and Fell

TERTIARY

T. mortenseni Henderson and Fell, 1969:12–14, fig. 2b, pl. 5: fig. 1. [New Zealand.]

LOWER MIOCENE

Taimanawa Henderson and Fell, 1969:3–6. Type-species: *T. pulchella* Henderson and Fell, 1969: 6–9, figs. 1, 2a, 2c, pl. 2: fig. 2, pls. 3–4. [New Zealand.]

Family UNIFASCIIDAE Cooke

UNIFASCIIDAE Cooke, 1959:79. Type-genus: *Unifascia* Cooke. [Fischer (Durham et al., 1966:U582) in the *Treatise* considers this family a synonym of Brissidae Gray.]

Genus *Unifascia* Cooke

MIDDLE EOCENE

Unifascia Cooke, 1959:79–80. Type-species: *Macropneustes carolinensis* Clark. [North Carolina, U.S.A.] (Castle Hayne Ls.)

Family SPATANGIDAE Gray

Genus *Spatangus* Leske

RECENT

S. beryl Fell, 1963b:5–6, pl. 1: fig. 1, pl. 4: figs. 8–9, pl. 5: figs. 10–11, 13. [New Zealand.]
S. diomedeae Fell, 1963b:5–7. [Philippine Islands.]
S. multispinus Mortensen, 1925:413–415, figs. 68–69. [Pacific Ocean.]
S. thor Fell, 1963b:3–5, fig. 1, pl. 1: fig. 2, pl. 3: figs. 6–7, pl. 5: fig. 12. [New Zealand.]

UPPER MIOCENE

S. glenni Cooke, 1959:80, pl. 35: figs. 1–5. [South Carolina, U.S.A.]

UPPER EOCENE

S. tapinus Schenck, 1928:198–199, pl. 24: figs. 1–4. [California, U.S.A.] (Tejon Fm.)

UPPER CRETACEOUS

S. baixadoleitensis Maury, 1934a:156–157, pl. 16: fig. 1. [Rio Grande do Norte, Brazil.] (Probably Turonian.)

Genus *Prospatangus* Lambert

In the *Treatise,* Fischer (Durham et al., 1966:U605) considers *Prospatangus* a synonym of *Spatangus* Gray.

MIOCENE

P. acuminatus Szörényi, 1953:39, 91, pl. 7: figs. 5–5a. [Ukraine.]
P. fothiensis Strauz, 1925:368–369, fig. 24. [Hungary. Another pagination given could be 214–215, fig. 24.]
P. hungaricus Vadász var. *bukkensis* Kutassy, 1928: 257–258. [Hungary.]

MIDDLE MIOCENE

P. cotteaui Lambert, 1928b:121–124. [France.] (Helvetian.)
P. venzoi Laureri, 1962:100–101, pl. 2: figs. 2–2a, pl. 4: fig. 2. [Italy.] (Helvetian.)

Genus *Atelospatangus* Koch

MIDDLE EOCENE

A. magnus Szörényi, 1963:192–193, pl. 15: figs. 5–7. [Hungary.]

Genus *Hemimaretia* Mortensen

RECENT

Hemimaretia Mortensen, 1950b:160. Type-species: *Marietia elevata* Döderlein. [East Africa.]

Genus *Maretia* Gray

RECENT

M. parvituberculata H. L. Clark, 1925c:13–15, pl. 4. [Off Natal Coast, South Africa.]
M. cordata Mortensen, 1948a:132–133. [Philippine Islands.]

MIOCENE

M. estenozi Sánchez Roig, 1926:111–112, pl. 37: figs. 1–2. [Havana, Cuba.]

Genus *Hemipatagus* Desor

In the *Treatise,* Fischer (Durham et al., 1966:U609) considers *Hemipatagus* a subjective synonym of *Maretia* Gray.

PLIOCENE

H. bandaensis Martin in Martin and Jeannet, 1937:276, figs. 53a–c. [Dutch East Indies, western Pacific Ocean.]

UPPER OLIGOCENE

H. cartagensis Sánchez Roig, 1949:216–217. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949:323) says it is Upper Oligocene.]

Genus *Nacospatangus* A. Agassiz

Subgenus *Pseudomaretia* Koehler

RECENT

P. oblonga Mortensen, 1950b:163. [Galápagos Islands, southeast Pacific Ocean.]

Genus *Paramaretia* Mortensen

RECENT

Paramaretia Mortensen, 1950b:160. Type-species: *P. multituberculata* Mortensen, 1950b:160. [New South Wales, Australia.]

Subgenus *Atelospatangus (Semipetalion)* Szörényi

UPPER EOCENE

Atelospatangus (*Semipetalion*) Szörényi, 1963: 193–194. Type-species: *A.* (*S.*) *anomon* Szörényi, 1963:195–196, pl. 15: figs. 1–4. [Hungary.]

Family LOVENIIDAE Lambert

Genus *Lovenia* Desor

RECENT

L. doederleini Mortensen, 1950b:158. [Kei Islands, Malay Archipelago.]
L. doederleini Mortensen var. *acuminata* Mortensen, 1948a:138. [Philippine Islands.]
L. hawaiiensis Mortensen, 1950b:158. [Hawaiian Islands, Pacific Ocean.]

MIOCENE

L. gigantae H. L. Clark, 1945:325–326, pl. 43: fig. F. [Fiji, South Pacific Ocean.]
L. minihagali Deraniyagala, 1961:154, pl. 5: fig. 9. (Ceylon, Indian Ocean.]
L. similis H. L. Clark, 1945:327–328, pl. 43: fig. G. [Fiji, South Pacific Ocean.]

MIDDLE MIOCENE

L. mortenseni Čtyroký, 1965:108–118, figs. 1–6, pls. 1–6. [Czechoslovakia.] (Carpathian Fm.)

OLIGOCENE

L. mexicana Jackson, 1937:236–237, pl. 15: figs. 2–3. [Mexico.]

UPPER OLIGOCENE

L. alabamensis Cooke, 1959:77, pl. 32: figs. 14–17. [Alabama, U.S.A.] (Chickasawhay Ls.)

UPPER EOCENE

L. macrotuberculata Schaffer, 1960:431–434, figs. e–g. [Austria.]

Upper Cretaceous

L. baixodoleitensis Maury, 1934a:156, pl. 15: fig. 1. [Brazil, Rio Grande do Norte. Maury (1934b:3) made this species the type-species of a new genus *Lovenilampas,* which Kier (Durham et al., 1968: U523) put in incertae sedis.] (Probably Turonian.)

Genus *Breynia* Desor

Pliocene

B. australasiae Leach var. *aroensis* Currie, 1924: 64–66, pl. 4: fig. 6. [Aru Islands, off southwest coast of New Guinea.]
B. cordata Hayasaka and A. Morishita, 1947: 122–124, pl. 10: fig. 1, pl. 11: fig. 1. [China.]
B. testudinaria Hayasaka and A. Morishita, 1947: 125–126, pl. 11: fig. 2. [China.]
B. birmanica Vredenburg, 1922:413, pl. 30: fig. 1. [Burma.]

Upper Eocene

B. sirtica Airaghi, 1939:281–282, pl. 12: figs. 17–18. [North Africa.]

Genus *Echinocardium* Gray

Recent

E. connectens Mortensen, 1933:469–470, fig. 28. [St. Helena (Island), South Atlantic Ocean.]
E. fenauxi Péquignat, 1963:3–8, figs. 1–3; 1964: 5–14, figs. 1–4, 5a, pls. 1–2. [South of France to Ligurian Sea.]
E. keiense Mortensen, 1950b:163. [Kei Islands, Malay Archipelago.]

Genus *Homolampas* A. Agassiz

Recent

H. lovenioides Mortensen, 1948a:117–118. [Philippine Islands.]

Suborder ASTEROSTOMATINA A. G. Fischer

Family ASTEROSTOMATIDAE Pictet

Genus *Asterostoma* Agassiz

Middle Eocene

A. dickersoni Sánchez Roig, 1949:180–181, pl. 31: fig. 1, pl. 32: fig. 1. [Cuba. Although Sánchez Roig says it is Upper Eocene, Brodermann (1949: 317) says it is Middle Eocene.]
A. irregularis Sánchez Roig, 1952b:7–8, pls. 2–3. [Cuba.]
A. subcircularis Sánchez Roig, 1952c:19–20, pl. 2: figs. 1–2, pl. 11: fig. 1. [Cuba.]

Genus *Antillaster* Lambert

Miocene

A. lamberti Jeannet, 1928b:220. [Venezuela.]

Middle Miocene

A. lamberti Jeannet, 1928a:36–37, pl. 4: figs. 14–15. [Venezuela.] (Serie Capadare, couches d'Ojo de Agua.)

Lower Miocene

A. jaumei Sánchez Roig, 1953a:64–65, pl. 15(pars). [Cuba.]

Oligocene

A. depressus Sánchez Roig, 1951:51, pl. 29: fig. 1. [Cuba.]
A. giganteus Sánchez Roig, 1951:48–49. [Cuba.]
A. herrerae Sánchez Roig, 1951:49–50, pl. 27: fig. 1, pl. 28: fig. 1. [Cuba.]
A. mortenseni Sánchez Roig, 1952c:20–21, pl. 14: figs. 2–3. [Cuba.]
A. rojasi Sánchez Roig, 1951:50–51, pl. 37: fig. 1, pl. 38: fig. 2. [Cuba.]

Upper Oligocene

A. brachypetalus Sánchez Roig, 1952b:8–9, pl. 7: fig. 1. [Cuba.]

A. cartagensis Sánchez Roig, 1949:188–189, pl. 22: fig. 2. [Cuba.]
A. estenozi Sánchez Roig, 1949:189–190, pl. 22: fig. 1. [Cuba.]
A. expansus Sánchez Roig, 1953a:63–64, pl. 18. [Cuba.]
A. guevarai Sánchez Roig, 1952b:9–10, pl. 4: figs. 1–2. [Cuba.]

Eocene

A. arnoldi H. L. Clark in Arnold and Clark, 1927: 62–63, pl. 15: fig. 3, pl. 16: figs. 16–17. [Jamaica, West Indies.]

Upper Eocene

A. bonairensis Pijpers, 1933:88, pl. 2: figs. 1–3. [Dutch West Indies, Netherland Antilles.]

Genus *Brissolampas* Pomel

Upper Oligocene

B. santanae Sánchez Roig, 1949:190–191, pl. 22: figs. 3–4. [Cuba.]

Genus *Heterobrissus* Manzoni and Mazzetti

Miocene

H. cypriotes Currie, 1935b:32–33, pl. 3: figs. 1–1b. [Cyprus, eastern Mediterranean Sea.] (Facies I of Idalian Series.)

Genus *Archaeopneustes* Gregory

In the *Treatise,* Fischer (Durham et al., 1966:U622) considers *Archaeopneustes* a subjective synonym of *Heterobrissus* Manzoni and Mazzetti.

Lower Pliocene

A. moorefieldi Hall, 1966:1124–1125, pl. 145: figs. 1–3. [California. U.S.A.]

Genus *Linopneustes* A. Agassiz

Recent

L. brachypetalus Mortensen, 1950b:157. [New South Wales, Australia.]

Genus *Megapetalus* H. L. Clark

Upper Miocene

Megapetalus H. L. Clark, 1929:259–260. Type-species: *M. lovenioides* H. L. Clark, 1929: 260–261, pl. 31: figs. 1–6. [California, U.S.A.]

Genus *Moronaster* Sánchez Roig

Eocene

Moronaster Sánchez Roig, 1952b:13–14. Type-species: *M. moronensis* Sánchez Roig, 1952b: 14–15, pl. 9: figs. 1–2. [Cuba.]

Genus *Paleopneustes* A. Agassiz

Recent

P. tholoformis Chesher, 1968a:125–134, fig. 25, pl. 27, pl. 28: figs. e, f, pl. 29: figs. a, f. [Florida Strait to Barbados, Caribbean Sea.]

Pliocene

P. periturus Nisiyama, 1968:165–167, figs. 61a–c. [Japan.] (Kiwada Fm.)
P. psoidoperiodus Nisiyama, 1968:162–164, figs. 60a–c. [Japan.] (Nakamura Fm.)

Lower Pliocene

P. holmani Grant and Hertlein, 1938b:112–113, pl. 25: figs. 1–2. [California, U.S.A.] (Repetto Fm.)

Miocene

P. lepidus Nisiyama, 1968:167–168, pl. 20: figs. 1, 4, pl. 21: fig. 1. [Japan.] (Nanao Fm.)

Upper Oligocene

P. elevatus Israelsky, 1924:144, pl. 4: figs. 1a–b. [Mexico.]

Subgenus *Paleopneustes (Oopneustes)* Nisiyama

Middle Miocene

Paleopneustes (*Oopneustes*) Nisiyama, 1968:159. Type-species: *P.* (*O.*) *priscus* Nisiyama, 1968: 159–162, figs. 57–59, pl. 19: figs. 1–2, pl. 21: fig. 4. [Japan.] (Tsunaki Fm.)

Genus *Platybrissus* Grube

Pleistocene

P. parvus H. L. Clark, 1945:322–323, pl. 42: figs. J–K. [Fiji, South Pacific Ocean.]

Subgenus *Platybrissus (Eurypatagus)* Mortensen

Recent

Eurypatagus Mortensen, 1948a:133–134. Type-species: *E. ovalis* Mortensen, 1948a:134. [Philippine Islands.]

E. grandiporus Mortensen, 1948b:12, pl. 1: figs. 4–5. [Indian Ocean.]

Genus *Plesiozonus* de Meijere

Recent

P. diomedeae Mortensen, 1948a:118–119. [Philippine Islands.]

Genus *Pseudoasterostoma* Sánchez Roig not *Pseudoasterostoma* Duncan, 1889

Presumably Sánchez Roig did not know that *Pseudoasterostoma* was preoccupied when he described his new genus. If his type-species is generically distinct, then a new generic name should be erected for it. In the *Treatise,* Fischer (Durham et al., 1966:U624) considers *Pseudoasterostoma* Duncan an objective synonym of *Prosostoma* Pomel.

Oligocene

Pseudoasterostoma Sánchez Roig, 1952b:5–6, pl. 1: fig. 1. Type-species: *Asterostoma cubensis* Cotteau. [Cuba.]

Upper Oligocene

P. fernandezi Sánchez Roig, 1952b:6, pl. 6: fig. 1. [Cuba.]

P. habanensis Sánchez Roig, 1952b:6–7, pl. 5: fig. 1. [Cuba.]

Genus *Scrippsechinus* Allison, Durham and Mintz

Recent

Scrippsechinus Allison, Durham and Mintz, 1967:16. Type-species: *S. fisheri* Allison, Durham and Mintz, 1967:16–22, figs. 13–14, 21–32. [West from Chile.]

Suborder Uncertain

Family Uncertain

Genus *Barnumia* Cooke

Upper Cretaceous

Barnumia Cooke, 1953:29–30. Type-species: *B. browni* Cooke, 1953:30, pl. 16: figs. 2–5. [Guatemala.] (Campanian?)

Subgenus *Cottreaucorys (Cordastrum)* Nisiyama

Upper Cretaceous

Cottreaucorys (*Cordastrum*) Nisiyama, 1968:175. Type-species: *C. (C.) sulcatus* Nisiyama, 1968: 175–177, figs. 65a–c, pl. 18: figs. 10–11, pl. 20: fig. 2. [Japan.] (Miyakura Fm. Maestrichtian-Senonian.)

Genus *Gonzalezaster* Sánchez Roig

Eocene

Gonzalezaster Sánchez Roig, 1952b:15–16. Type-species: *Nudobrissus lamberti* Sánchez Roig.

(Roig, *Torreia,* Cuba No. 17:16, pl. 8: figs. 1, 4). [Cuba.]

Genus *Homoeopetalus* Arnold and H. L. Clark

TERTIARY

Homoeopetalus Arnold and H. L. Clark, 1934:146. Type-species: *H. axiologus* Arnold and H. L. Clark, 1934:147–148, pl. 2: figs. 2–3. [Jamaica, West Indies.]

Genus *Nudobrissus* Lambert

UPPER/MIDDLE EOCENE

N. lamberti Sánchez Roig, 1949:222–223, pl. 36: figs. 1–3. [Cuba. Brodermann (1949:324) says it is Middle to Upper Eocene.]

Order NEOLAMPADOIDA Philip

Suborder NEOLAMPADINA Philip

Neolampadina Philip, 1963a:725. Type-genus: *Neolampas* A. Agassiz.

Family NEOLAMPADIDAE Lambert

Genus *Nannolampas* Mortensen

RECENT

Nannolampas Mortensen, 1948c:339. Type-species: *Neolampas tenera* de Meijere. [Timor Sea, part of Indian Ocean.]

Genus *Notolampas* Philip

LOWER MIOCENE

Notolampas Philip, 1963a:719–720. Type-species: *N. flosculus* Philip, 1963a:720–722, fig. 2, pl. 107: figs. 1–10. [South Australia.]

Genus *Pisolampas* Philip

UPPER EOCENE

Pisolampas Philip, 1963a:718. Type-species: *P. concinna* Philip, 1963a:719, fig. 1, pl. 106, pl. 107: fig. 11. [South Australia.]

Superclass GNATHOSTOMATA or ATELOSTOMATA

Order Uncertain

Genus *Menopygus* Pomel

LOWER JURASSIC

M. hebbriensis Lambert, 1933b:57–58, pl. 1: figs. 8–9. [North Africa.] (Lower Domerian.)

Doubtful Nominal Genera of Echinoids

Genus *Neopatagus* Sánchez Roig

OLIOGOCENE

Neopatagus Sánchez Roig, 1953b:258–259. Type-species: *Breynia cubensis* Cotteau. [Cuba.]

Genus *Oligopodia* Duncan

PLIOCENE

O. okinawa Cooke, 1954:49, pl. 12: figs. 7–10. [Okinawa, Japan.] (Naha Ls. is lower part of Ryukyu Ls.)

MIOCENE

O. tapeina H. L. Clark, 1945:321–322, pl. 42: figs. G–I. [Fiji, South Pacific Ocean.]

UPPER EOCENE

O. mortenseni Castex, 1947:32, pl. 2: figs. 1–4. [France.] (Base du Calcaire de St.-Éstephe.)

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Index

(Page numbers in italic indicate principle entry)

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